English Edition

SERVICE MANUAL

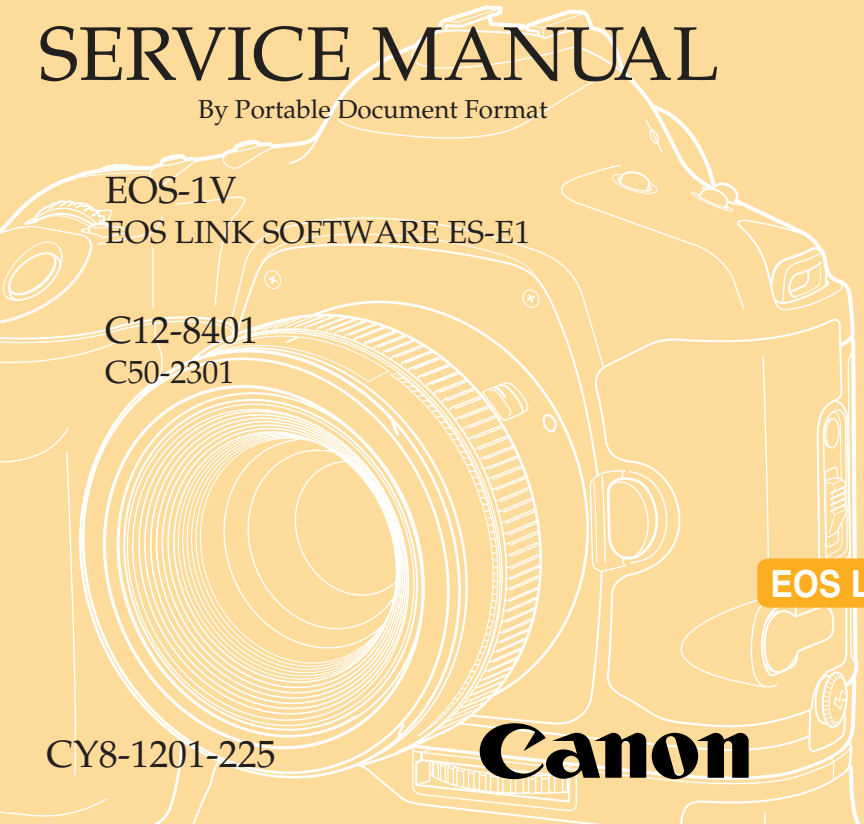
By Portable Document Format

EOS-1V

EOS LINK SOFTWARE ES-E1

C12-8401

C50-2301



CY8-1201-225

Canon

EOS-1V

0 PREFACE

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3 Repair

4 Electrical Adjustments

5 Parts Catalog

6 Electrical Diagrams

Appendix

SI Adjustment Chart

EOS LINK SOFTWARE ES-E1

1 Product Overview

3 Repair

5 Parts Catalog

Part 1

General Information

1. FEATURES

1.1 High-Performance, High-Precision Area AF

- The world's fastest continuous shooting speed of 9 fps in predictive AI Servo AF mode.
- 8 × 15mm Area AF for easy subject capture.
- Improved AF performance.
- Focusing point registration and shifting and limiting the selectable focusing points to 11 or 9 result in faster focusing point selection.
- Active, superimposed focusing points are brighter by over 2 stops.

1.2 High-Speed, Quiet Film Transport

- AF SLR camera boasting the world's fastest continuous shooting speed at approx. 10 fps (in the One Shot AF mode w/PB-E2 and NP-E2).
- Built-in motor drive enables approx. 3.5 fps continuous shooting.
- Film transport noise level is on par with the EOS-1N's.

1.3 High Reliability

- Moving parts are thoroughly sealed for excellent water and dust resistance.
  - Grip's new battery chamber cover is lined with packing.
  - The Remote control/Data transfer terminal cap is fixed on the camera to prevent loss and it protects the terminal against water.
  - New lens mount coupling surface which matches the EF 300mm f/2.8L IS USM and later lenses equipped with an O-ring for enhanced water and dust resistance.
- Rigid magnesium alloy top and front covers with highly durable metallic finish.
- Shutter durability of 150,000 cycles.
- The grip mount and electrical contacts (system connector) are bipolar to enhance reliability.
- Ambient temperature range for normal operation is -20°C to +45°C with 95% maximum humidity. (Film ID imprinting is assured down to -10°C.)

1.4 Excellent Basic Features

- The algorithm for 21-zone evaluative metering and E-TTL autoflash metering has been improved for better metering stability.
- Ultra-high speed, high-precision shutter for 30 sec. - 1/8000 sec. and X-sync at 1/250 sec.
- 100% viewfinder coverage, dioptric correction, and built-in eyepiece shutter.
- Laser Matte focusing screen with Area AF ellipse.
- Short viewfinder blackout time of 87 ms (approx. 38% shorter than the EOS-1N's 140 ms and 17% shorter than the EOS-3's 105 ms). Insures stable viewfinder image during continuous shooting.
- Shutter release time lag is short and fixed at 55 ms for all lenses set at the maximum aperture or up to three stops smaller. See 3. Specifications, item 5-4.
- Infrared film can be used.
- Film ID imprinting enabled for easier identification and organization of film rolls.

1.5 Outstanding Operation Ease

- Camera control layout conforms to the EOS-1N's
  - EOS-1N users will feel at home with the EOS-1V. Using the EOS-1V and the EOS-1N at the same time presents no familiarity problems with the camera controls.
- Comfortable hold and feel with rubber covering on all grip surfaces.
- Fast Main Dial and Quick Control Dial operations.
- With full-time manual focusing lenses, manual focusing is enabled after One Shot AF or AI Servo AF operation.
- Hidden buttons inside the side door improve operational ease.

1.6 More Custom Functions

- Enhanced flexibility with 20 Custom Functions and 63 settings (two more Custom Functions and 11 more settings than the EOS-3).
- Three groups of Custom Function settings can be set to suit the particular subject.
  - Personal Functions can be used to switch the EOS-1V's Custom Function settings on the fly.

1.7 Shooting Data and Personal Computer Linkage

- Shooting data for up to 100 rolls of 36-ex. film can be recorded.
- With EOS Link software ES-E1, the shooting data can be viewed or edited.

2. OVERVIEW

2.1 EOS-1V

The EOS-1V combines the EOS-1N's outstanding reliability and the EOS-3's advanced features (enhanced as described below). Its overall performance surpasses that of the Nikon F5 to become the world's top-performance AF SLR camera.

Specifications surpassing the EOS-1N's

- The EOS-3's 45-point Area AF improved for EOS-1V
  - More focusing point selection methods (described later) with focusing point registration and shifting and CF-13-1 for limiting the selectable focusing points to 9.
  - Improved AF mechanism and Area AF sensor for better focusing precision.
  - The superimposed focusing point display is two stops brighter than the EOS-3's.
- AI Servo AF at 9 fps for subjects moving up to 50 kph as close as 8 m (EOS-1N: 5 fps as close as 10 m, EOS-3: 7 fps as close as 8 m)
- Max. continuous shooting speed of 10 fps (in the One Shot AF mode with PB-E2 and NP-E2 attached) (EOS-1N: 6 fps, EOS-3: 7 fps)
- Moving parts sealed against water and dust
  - The grip's battery chamber cover is lined with packing.
  - The camera's remote control/Data transfer terminal cap keeps out water and it cannot be lost. (The terminal has the same shape and pin count as the EOS-3's remote control terminal and it can be connected to remote switches like the RS-80N3 as well as to the EOS Link Software ES-E1 cable.)
- The first EOS-1 series camera to have highly rigid magnesium alloy top and front covers.
- The first EOS-1 series camera to have a durability of 150,000 shutter cycles (same as the Nikon F5, and exceeding the EOS-1N and EOS-3's 100,000 cycles).
- Twenty Custom Functions with 63 settings (compared to the EOS-3's 18 Custom Functions and 52 settings and the EOS-1N's 14 Custom Functions and 35 settings)
- Three groups of Custom Function settings can be set to suit the shooting objective
- Shooting data can be recorded by the camera
- By connecting the camera to a personal computer via EOS Link Software ES-E1, you can view and edit the shooting data and modify EOS-1V Personal Function settings.
- A user-selectable No. and film ID No. are imprinted on the film leader
- Automatic battery check (EOS Elan II/50/55 type) displays the battery level at all times on the LCD panel.
- Bulb exposures up to 23 hours, 59 min., 59 sec. indicated digitally
- Incorporates the EOS-3's state-of-the-art exposure control system
  - 21-segment evaluative metering (not found on the EOS-1N), focusing point-linked spot metering, multi-spot metering, E-TTL autoflash, FP flash, FEL, FEB, and wireless multi-Speedlite flash. (The algorithm for evaluative metering and E-TTL flash metering has been improved.)
  - Safety shift enabled in the shutter speed-priority AE and aperture-priority AE modes (set with a Custom Function).
- Viewfinder blackout time of 87 ms (EOS-1N: 140 ms, EOS-3: 105 ms)
- Digital frame counter in the viewfinder
  - Frame countdown icon (not found on the EOS-3) provided and a Custom

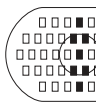
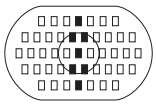
Function can set the frame counter to be the same as the EOS-1N's

Specifications Exceeding the EOS-3's

- 100% viewfinder coverage, dioptric correction, built-in eyepiece cover, and other viewfinder specs on par with the EOS-1N's
  - Newly-developed Laser Matte focusing screen (also compatible with the EOS-3)
- Compatible with infrared film
- Rubber skin on all camera grip surfaces (like the EOS-1N)

There is no Eye Control since priority was given to 100% viewfinder coverage, 0.72 × viewfinder magnification, dioptric correction, and the built-in eyepiece shutter.

Table 1-1 Comparison with EOS-1N and EOS-3

Item	Camera		EOS-1N	EOS-1V	EOS-3
AF	Focusing Area ■ : f/2.8 high-precision focusing				
	Predictive AF at 50 kph & Continuous Shooting Speed w/PB-E2+300mm/2.8L		10 m 5 fps	8 m 9 fps	8 m 7 fps
	Eye Control		–	–	○
	Focusing Point Registration/Shift		–	○	–
View finder	Coverage		100%	100%	97%
	Eye Relief		20 mm	20 mm	19.5 mm
	Dioptric Correction		-3 - +1 dpt	-3 - +1 dpt	–
	Eyepiece Shutter		○	○	–
Metering	Sensor Segments		16	21	21
	Multi-spot Metering		–	○	○
Shutter	Speeds, X-sync		30 - 1/8000 sec., 1/250 sec.	30 - 1/8000 sec., 1/250 sec.	30 - 1/8000 sec., 1/200 sec.
	Durability		100,000 cycles	150,000 cycles	100,000 cycles
Flash Control	E-TTL Autoflash, FP Flash		–	○	○
	FE Lock, FEB		–	○	○
	Wireless Multi-Speedlite Flash		–	○	○
Film Transport	Max. Speed	Body Only	3 fps	3.5 fps	4.3 fps
		w/PB-E2	6 fps	10 fps	7 fps
	Infrared Film		○	○	×
Custom Functions/Settings			14/35	20/63	18/52
Film ID Imprinting/Data Recording			–	○	–
PC Link			–	○	–
Water/Dust Resistance			○	◎	○
Top/Front Cover Material			Plastic	Magnesium alloy	Plastic
Dimensions (W × H × D mm)			161 × 112.1 × 71.8	161 × 120.8 × 70.8	161 × 119.2 × 70.8
Weight (excluding battery)			855 g	945 g	780 g

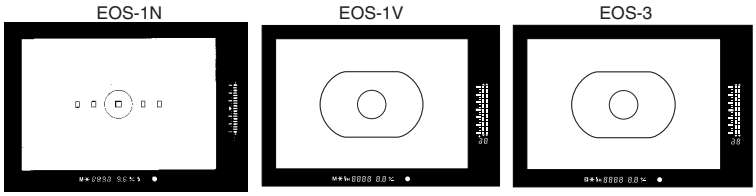


Fig. 1-1 Viewfinder comparison.

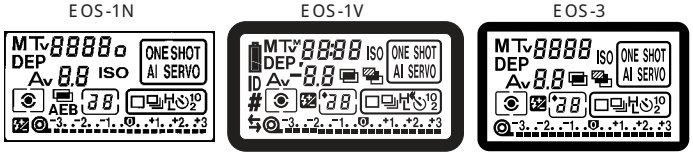


Fig. 1-2 LCD panel comparison.

1) Exterior design

As an imaging tool for advanced amateurs and pros, the EOS-1V's basic design concept is based on the EOS-1-series. The following were emphasized in the design:

q Imposing and refined exterior while looking tough and elegant
The camera has been sculptured like a top-notch athlete with a lean and tough body. The smooth, curved surfaces are elegant to the smallest detail exuding a strong presence.

w Highly rigid, luxurious exterior
The magnesium-alloy top and front covers are very durable and coated with a deep-black metallic finish. Also, like the EOS-1N, a rubber skin covers all the surfaces held by the hands. The result is a better grip, holding comfort, and enhanced joy of ownership.

e Improved operation ease
The new Assist button (see Fig. 1-3), used for focusing point selection and other functions, is strategically positioned. The remote control/Data transfer terminal has a rubber cap to keep out water and dust. The EOS-1V retains the EOS-1N's basic camera controls while adopting additional ones to enhance operation ease.

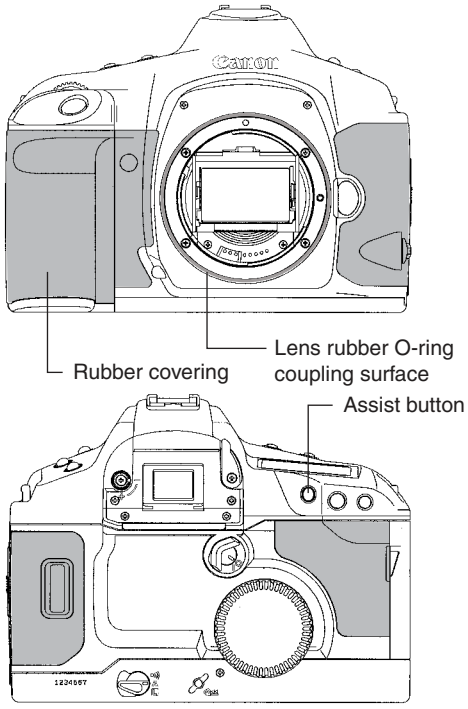


Fig. 1-3 EOS-1V exterior.

2) Water- and Dust-Resistant

All the switches and major body seams are sealed, and the camera back edges are lined with packing. The grip's battery chamber cover is also lined with packing (see Fig. 1-4). Countermeasures against water and dust enable the camera to be used even in harsh environments.
To better seal out dust and water, the lens mount perimeter also has a new coupling surface where the rubber O-ring on EF 300mm f/2.8L IS and later lenses contact against.

Fig. 1-4 Water-resistant grip

3) AF

The EOS-3's Area AF sensor (Fig. 1-5) has been refined for the EOS-1V. The S/N ratio is better and the AF optics have been revamped to improve AF performance. In the One Shot AF mode, the AF speed and predictive AF performance exceed the EOS-3's.
For fast focusing point selection even without Eye Control, a focusing point can be registered for instant shifting to it. There are also more focusing point selection methods. These improvements reflect the suggestions of EOS-3 professional users. (See next page.)

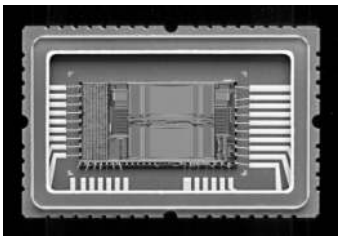


Fig. 1-5 Area AF sensor

EOS-1V's New AF Features (For details, see "4. Nomenclature".)

Focusing Point Registration and Shifting (HP: Home position)

This feature was suggested by many pro users of the EOS-3. It enables the user to register the most often-used focusing point and shift the focusing to this registered one. Among the 45 focusing points, only one focusing point can be registered. Or, the camera can be set for automatic focusing point selection with the 45 focusing points (the automatic selection of 2 focusing points can also be registered). Using a registered focusing point gives priority to composition, while automatic selection of 45 focusing points results in shutter release priority. The focusing point can thereby be registered to suit the objective.

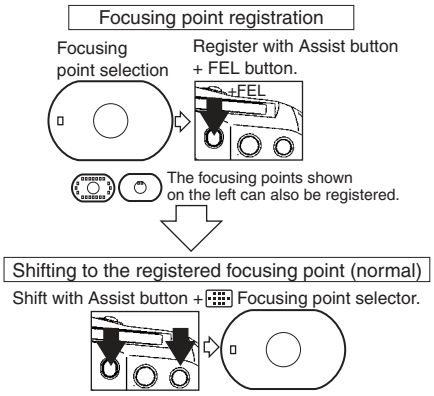

Focusing point registration
Focusing point selection
Register with Assist button + FEL button.
+FEL
The focusing points shown on the left can also be registered.
Shifting to the registered focusing point (normal)
Shift with Assist button + Focusing point selector.

Fig. 1-6 Focusing point registration and shifting.

The focusing point is shifted mainly with the new Assist button provided for this purpose. When CF-18-1/2 is set, pressing the Assist button alone can shift the focusing point instantly.

New focusing point selection method (CF-13-3)

In addition to limiting the selectable focusing points to 11 (with CF-13-1/2), a new Custom Function setting (CF-13-3) can also limit it to 9. Turning the Main Dial selects one of the three horizontal focusing points at the center or sets the automatic selection of 45 focusing points. Meanwhile, turning the Quick Control Dial selects one of the 8 peripheral focusing points. Thus, the user can quickly select the often-used center focusing point, a peripheral focusing point, or the 45 focusing points to achieve focus.

Also, the new CF-18-1/2 settings enable the Assist button alone to instantly select the center focusing point, and the Quick Control Dial and Assist button can be used to select one of the 9 focusing points.

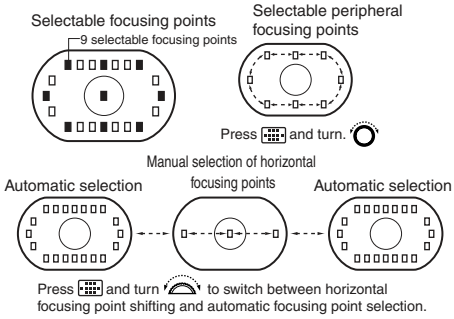

Selectable focusing points
9 selectable focusing points
Selectable peripheral focusing points
Press and turn.
Manual selection of horizontal focusing points
Automatic selection
Automatic selection
Press and turn to switch between horizontal focusing point shifting and automatic focusing point selection.

Fig. 1-7 Focusing point selection method with CF-13-3.

Limiting the selectable focusing points (CF-13-1/2/3) and expanding the focusing point range (CF-17-1/2)

By limiting the selectable focusing points to 11 (CF-13-1/2) or 9 (CF-13-3) and expanding the focusing point range (CF-17-1/2), all 45 focusing points can be used to cover the subject.* This combination enables both quick focusing point selection and quick subject capture.

* With CF-13-3 and CF-17-1, 37 focusing points will be usable. With CF-17-2, the focusing point coverage varies depending on the lens focal length and AF mode.

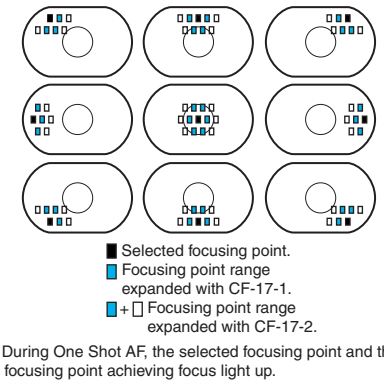

Selected focusing point.
Focusing point range expanded with CF-17-1.
+ Focusing point range expanded with CF-17-2.
* During One Shot AF, the selected focusing point and the focusing point achieving focus light up.

Fig. 1-8 CF-13 and focusing point expansion. (With CF-13-3)

4) The Viewfinder and Information Display

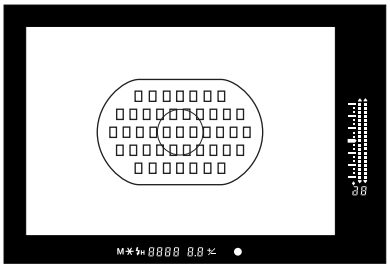


Fig. 1-9 Viewfinder.

Like the EOS-1N, the EOS-1V's viewfinder coverage is 100 percent, the viewfinder magnification is 0.72 ×, the eye relief is 20 mm, and the dioptric correction range is -3 to +1 dpt. The viewfinder blackout time is shorter at 87 ms (EOS-1N: 140 ms, EOS-3: 105 ms). The viewfinder image is also stable even during continuous shooting.
The standard focusing screen is the newly developed Laser Matte focusing screen with the Area AF ellipse. Other Ec-series focusing screens can also be used.
The superimposed focusing point is two stops brighter than the EOS-3's. It is easier to see under bright conditions. The viewfinder display on the right and bottom of the image area is almost the same as the EOS-1N's. The new FP flash icon has been added below the image area, and the new flash exposure level scale is on the right of the image area. The frame counter is fully digital, and it reflects the frame counter displayed on the LCD panel. There is also a frame countdown icon (new) which indicates that the frames are being counted in reverse order. With CF-8-2, the same frame counter display (F 9 - 0) as the EOS-1N's can be set.

5) Metering, Exposure Control, and the Shutter

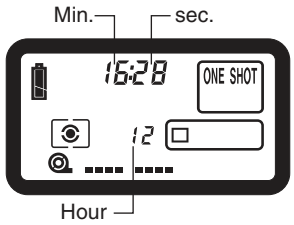


Fig. 1-10 Bulb exposure time indicator.

The algorithm for evaluative metering and E-TTL autoflash metering has been changed to attain better stability. Otherwise, the exposure control and metering modes are the same as the EOS-3's. The shutter is based on the highly reliable rotary magnet-controlled shutter used in the EOS-3. It has carbon curtains. Improved shutter cocking has made the curtain speed faster to attain a maximum X-sync of 1/250 sec. and shutter speeds from 30 to 1/8000 sec. The shutter durability is 150,000 cycles.
Bulb exposures can be as long as 23 hr., 59 min., and 59 sec. The bulb exposure's elapsed time is indicated digitally on the LCD panel.

6) Film Transport

Table 1-2 Continuous Shooting Speed
L: Low speed, H: High speed, H‟: Ultra-high speed

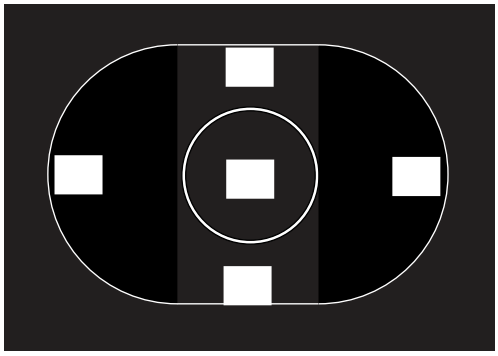
Configu-ration	Power Source	Mode	One Shot Manual	AI Servo
EOS-1V only	2CR5	L	3.5 fps	3 fps
w/PB-E2	NP-E2	H‟	10 fps	9 fps
		H	7 fps	7 fps
		L	3 fps	3 fps
	LR6	H	6 fps	5 fps
		L	3 fps	3 fps

The continuous shooting speed is shown in Table 2. With PB-E2 and NP-E2, the EOS-1V is the world's fastest 35mm AF SLR camera at 10 fps. This applies when the scene is metered for each shot, and it does not apply to stopped-down shooting. With PB-E2 and NP-E2, the EOS-1V can be set to one of four film advance modes: Single-frame, low-speed, high-speed, and ultra-high speed continuous advance. The EOS-1V is also compatible with bottom-attachable accessories for the EOS-1, EOS-1N, and EOS-3.
With silencing technologies such as floating supports for film advance and shutter cocking, the film transport noise level is almost the same as the EOS-1N's (6 fps) during high-speed continuous shooting (7 fps). Film rewind noise is also the same level as the EOS-1N's.
Although an infrared sensor is used to detect the film transport, infrared film can be used with the EOS-1V since new optics prevent the picture area from getting fogged.

PREPARATIONS

1) On the SI unit, attach the screws (X99-0689) and washer (CA1-7752) that are used to attach the SPC.
2) As shown on the right, slide off the top cover, then connect the transmission connector.
3) As shown below, place the camera 1.0 m +/-1 cm in front of the SI Adjustment Chart.
4) On the Display Adjustment Menu, select [F1] SI Position Adjustment.

Fig. 4-17



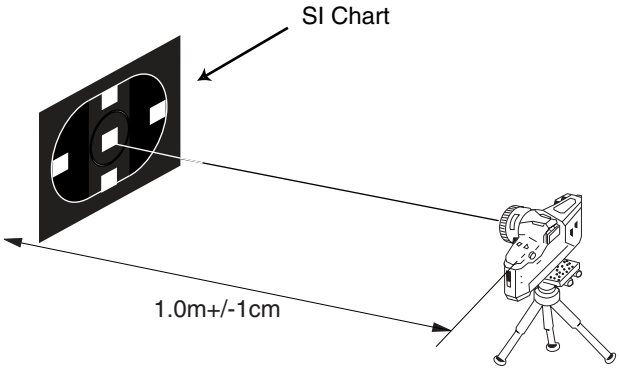
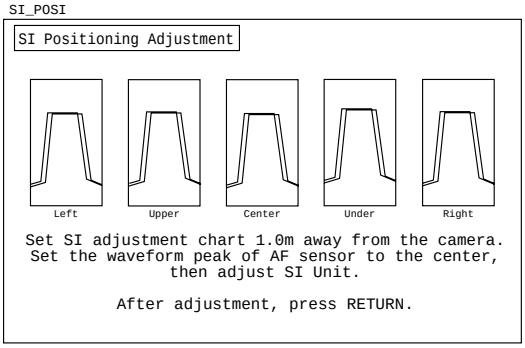


Fig. 4-18

4) When the SI Adjustment Menu is selected, the screen on the right will appear. Move the camera so that all the vertical and horizontal waveform peaks (trapezoid) are centered.



ADJUSTMENT PROCEDURE

1) All the SI points will be lit. Look through the viewfinder and move the SI so that the SI Adjustment Chart's squares align (while attaining a good balance) with the respective SI's center, left, right, top, and bottom points.
2) When all the SI points are properly aligned, use Aron Alpha to fix it in place temporarily. Then use Diabond to glue the entire SLC unit.
3) After completing the adjustment, press Return.

• SI Brightness Adjustment

CAUTION

- The adjustment is very fine, and it is difficult to see the adjusted brightness with the naked eye.
- Stray light will affect the SI brightness. Do the adjustment in a dark place (with constant lighting).

PURPOSE

To adjust the SI brightness. Normally, this adjustment is not necessary. It is done only when the user requests the SI to be brighter or darker.

TOOLS

Body cap

PREPARATIONS

1) Attach the body cap to the camera.
2) On the Display Adjustment Menu, select [F2] SI Brightness Adjustment.

ADJUSTMENT PROCEDURE

1) All the SI points will be lit. While looking through the viewfinder, use the cursor to select the desired brightness correction (brighter or darker). Then press Return.

2) Check the resulting brightness after the adjustment is completed. If it is OK, press Return. If further adjustment is necessary, press the space bar.

SI1

SI Adjustment | Standard: Image must be clear

To obtain clear image,
select compensation with cursor key.

000

The adjustment value varies from -128 to +127.
Average value is approx. 60.
If too bright, it is recommended to adjust
to the value between -10 to -20.

Press RETURN to make compensation.
To return to Display Adjustment Menu,
press space bar.

Standard default will be weitten if ESC is pressed.

SI2

SI Brightness Adjustment | Limit: Clearly visible

The current adjustment has been set to

##

Check the SI brightness.

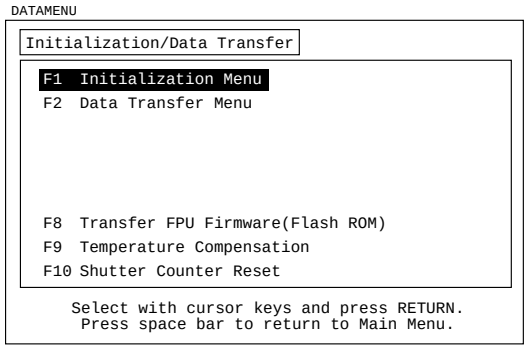
If this is OK, press Return.
If this is not OK, press the space bar
and do the adjustment again.

1.24 DATA TRANSFER

With data transfer, the following are possible:

1. Initialize: All data, the AF data, or the various settings can be initialized. Select the item to be initialized.
2. Data Storage: All data, only the AF data, or the various individual settings can be saved.
3. Data Transfer : The same data listed in “Data Storage” can be transferred.
4. Transfer FPU firmware: This updates the FPU (which stores the AF’s program) program (firmware). The current firmware version is 2B0111. When future upgrades become available, the firmware can be rewritten.
4. Temperature correction: The temperature correction value is stored in the camera. (This corrects the camera’s internal thermometer’s measurement tolerance. This data is used by the AE and AF sequences.)
5. Reset shot counter: The shot count can be reset or set to any number.

On the Main Menu, select Self Check. The Self Check menu will appear.


DATAMENU
Initialization/Data Transfer
F1 Initialization Menu
F2 Data Transfer Menu
F8 Transfer FPU Firmware(Flash ROM)
F9 Temperature Compensation
F10 Shutter Counter Reset
Select with cursor keys and press RETURN.
Press space bar to return to Main Menu.

• Initialize

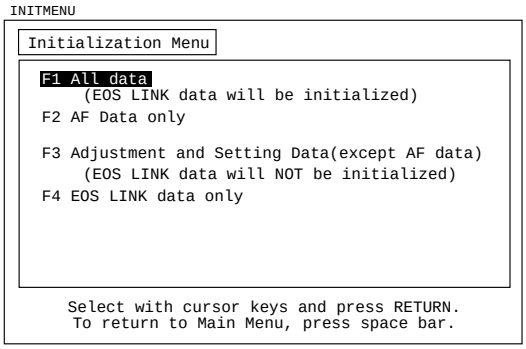
CAUTION

- With previous cameras, when the main flexible board was replaced, initialization and then adjustment were executed. However, with the EOS-1V, the basic data is written in the main flexible board and initialization is not necessary.
- Initializing all the data will take about 15 minutes.

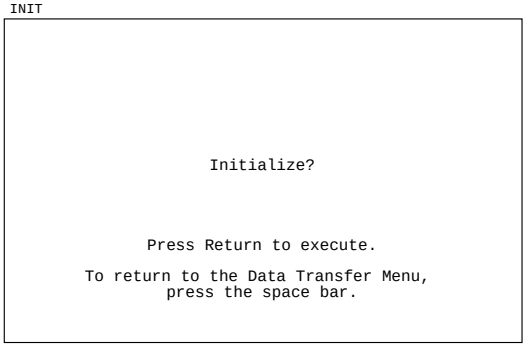
There are the following initialization operations:

Initialize all data:	This initializes all the adjustment data and other data. All the adjustments must be done again afterward.
Initialize AF data:	This initializes only the AF data. Do this if the AF operation is abnormal. After the initialization, all AF adjustments must be done.
Initialize various settings:	This initializes the Custom Functions, exposure modes, error codes, and other data. It reverts the data to the factory defaults.
Initialize EOS Link data:	This initializes only the EOS Link data. It also sets the camera ID to "00-000" (user-settable No. and film No.). The camera ID is also reset in the same way when the above "Initialize all data" or "Initialize various settings" is executed.

1) When Initialize is selected, the screen on the right will appear. Select the data to be initialized and press Return.


INITMENU
Initialization Menu
F1 All data
(EOS LINK data will be initialized)
F2 AF Data only
F3 Adjustment and Setting Data(except AF data)
(EOS LINK data will NOT be initialized)
F4 EOS LINK data only
Select with cursor keys and press RETURN.
To return to Main Menu, press space bar.

2) A message will then ask whether to execute the initialization. To execute the initialization, press Return. To abort, press the space bar.

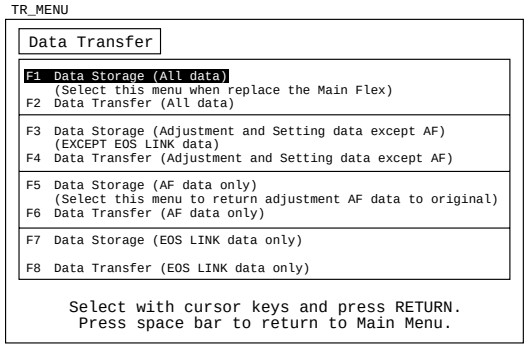


• Data Storage

CAUTION

- Storing all the data for five cameras requires over 2 MB of disk space. Be aware of the available disk space.

As with data initialization, there are three data storage categories: All Data, AF Data, and Various Settings 1 EOS LINK data. Select the required option.

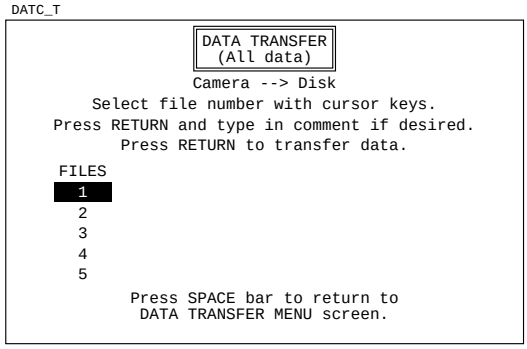

TR_MENU
Data Transfer
F1 Data Storage (All data)
(Select this menu when replace the Main Flex)
F2 Data Transfer (All data)
F3 Data Storage (Adjustment and Setting data except AF)
(EXCEPT EOS LINK data)
F4 Data Transfer (Adjustment and Setting data except AF)
F5 Data Storage (AF data only)
(Select this menu to return adjustment AF data to original)
F6 Data Transfer (AF data only)
F7 Data Storage (EOS LINK data only)
F8 Data Transfer (EOS LINK data only)
Select with cursor keys and press RETURN.
Press space bar to return to Main Menu.

Tip: Before proceeding with the repair, record the Various Settings. Then after the repair is completed, these settings can be reinstalled before the camera is delivered to the user. The user's original settings will thereby be intact.

1) On the Data Storage Menu, use the up and down arrow keys to select the data to be saved. Then press Return.

2) The screen on the right will then appear. Press the up or down cursor key to select a file. Then press Return. Remarks can also be entered.

3) After entering any remarks, press Return. The camera's data will then be saved.



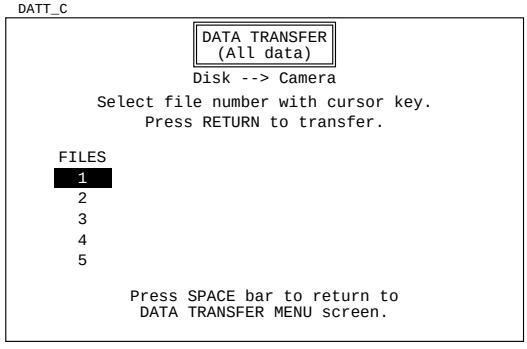
• Data Transfer

CAUTION

- In the beginning, there is no data transfer data.

1) On the Data Transfer Menu, select the data to be transferred. Use the up or down cursor key to select the data, then press Return.

2) The screen on the right will then appear. Use the up or down cursor keys to select a file, then press Return. The camera's data will be transferred.



• Transfer FPU Firmware

This rewrites the FPU IC program.

CAUTION

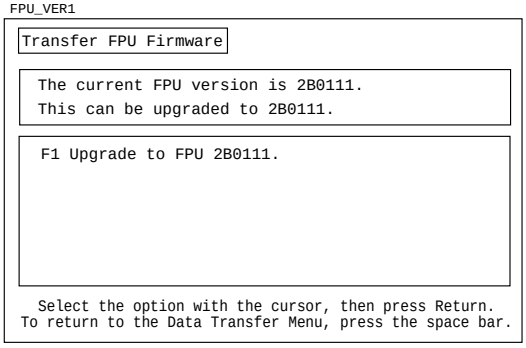
- If power to the camera or personal computer is cut off during the transfer, the camera will no longer be able to conduct a transfer. Be sure to use a constant-voltage power source for the camera.

1) On the Save Data Menu, select Transfer FPU Firmware.

2) After communication with the camera, the screen on the right will appear. Use the up or down arrow key to select the option, then press Return.

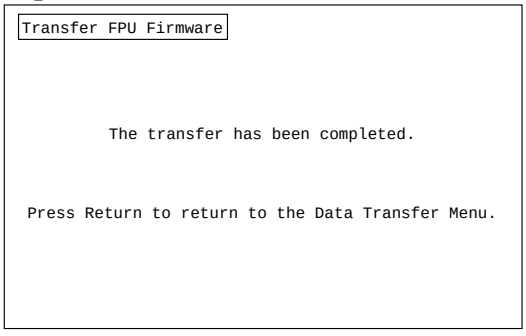
With the first communication, the existing MPU and BPU version are checked to see whether the FPU's firmware can be rewritten.

FPU_VER1


Transfer FPU Firmware
The current FPU version is 2B0111.
This can be upgraded to 2B0111.
F1 Upgrade to FPU 2B0111.
Select the option with the cursor, then press Return.
To return to the Data Transfer Menu, press the space bar.

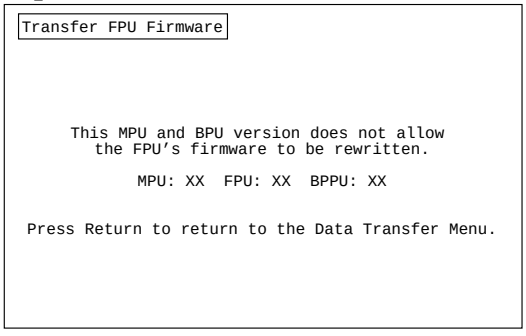
3) When the transfer ends properly, the screen on the right will appear to indicate that the transfer has been completed.

FPU_VER2



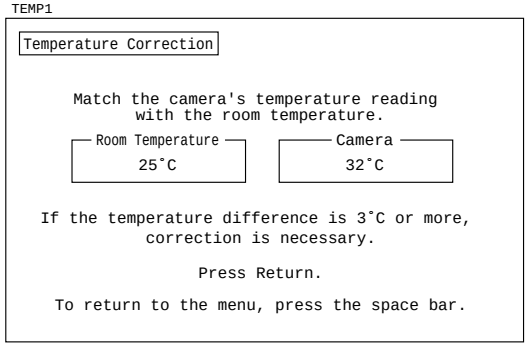
If the transfer is not possible due to MPU and BPU being an old version, the screen on the right will appear.

FPU_NG

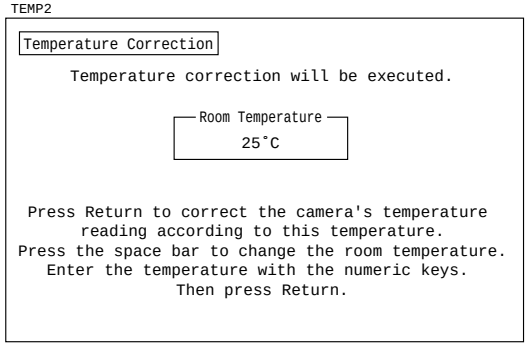

Transfer FPU Firmware
This MPU and BPU version does not allow
the FPU's firmware to be rewritten.
MPU: XX FPU: XX BPPU: XX
Press Return to return to the Data Transfer Menu.

• Temperature Correction

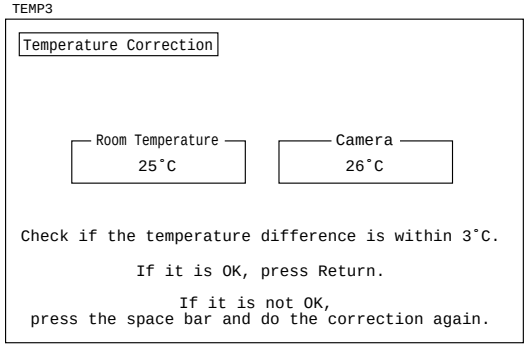
1) When Temperature Correction is selected, the room temperature (as measured by the Multiple Tool II or HS-I/F) and the temperature measured by the camera will be displayed as shown on the right. If the temperature difference between the room temperature and camera's temperature reading is 3°C or greater, press Return to do the temperature correction.



2) The room temperature (as measured by the Multiple Tool II or HS-I/F) will be displayed. To correct this temperature in comparison with the current room temperature, press the space bar and enter the temperature with the numeric keys. If it is OK, press Return.


TEMP2
Temperature Correction
Temperature correction will be executed.
Room Temperature
25˚C
Press Return to correct the camera's temperature
reading according to this temperature.
Press the space bar to change the room temperature.
Enter the temperature with the numeric keys.
Then press Return.

3) Press Return. After the transmission, the screen on the right will appear. If the difference between the room temperature (as measured by the Multiple Tool II or HS-I/F) and the temperature measured by the camera is within 3°C, press Return. If it is greater than 3°C, press the space bar to correct it again.

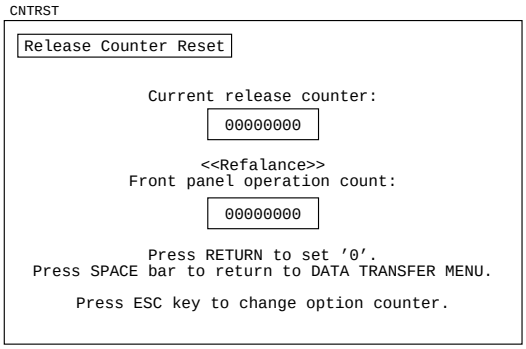


• Reset Shot Counter

CAUTION • After replacing the shutter, be sure to reset the shot counter to 0.

This resets the shot counter. After replacing the shutter, reset the shot counter or set it to the desired number.

On the Data Transfer Menu, press the F10 key. The screen on the right will appear. Press Return to enter “0”. Or press ESC for entering any number for the shot count. To return to the Data Transfer Menu, press the space bar.



Part 5

Parts Catalog

Canon

EOS-1 V

REF.NO. C12-8401

PARTS CATALOG

7) Custom Functions

Besides having the EOS-3's Custom Functions, the EOS-1V has the following new Custom Functions. Personal Functions also enable the user to set three groups of Custom Function settings (Fig. 1-11). C.Fn-0 cannot be registered in a Custom Function group.

Table 1-3 New Custom Functions

CF No.	Function		Description
8	Frame counter	3	Makes the viewfinder's frame counter display identical to the EOS-1N's (F 9 - 0)
13	Focusing point and spot metering linkage	3	The selectable focusing points are limited to 9 which are also linked to spot metering.
18	Shift to registered focusing point (home position)	0	Shifts with the Assist button and focusing point selector.
		1	Shifts with the Assist button.
		2	Shifts only while the Assist button is held down.
19	AF stop button function (Provided for IS lenses and super telephoto lenses)	0	AF stop while the button is held down.
		1	AF operates while the button is held down.
		2	AE lock (while metering is active) when the button is pressed.
		3	Automatic selection of 45 focusing points while the button is held down.
		4	Toggles between One Shot AF and AI Servo AF while the button is held down. For example, in the One Shot AF mode while the shutter button is pressed halfway for AF lock, pressing the button switches to AI Servo AF and releasing the button switches back to One Shot AF.
		5	Image Stabilizer operates while the button is held down (the IS switch must be on).

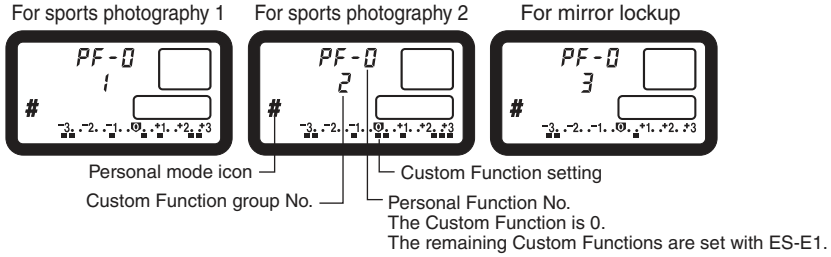


Fig. 1-11 Sample Custom Function groups.

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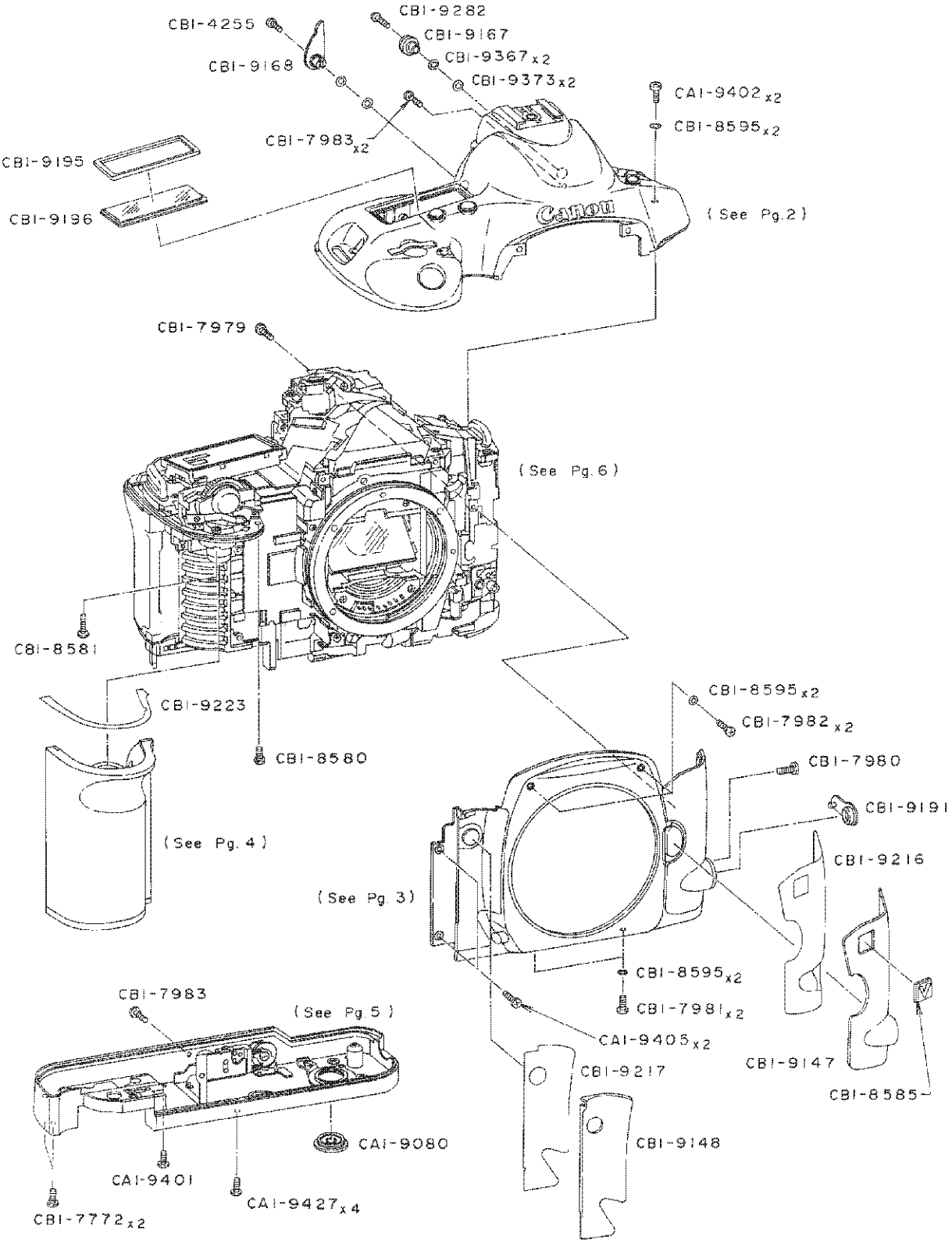
CANON EOS-IV


CBI-4255
CBI-9282
CBI-9167
CBI-9168
CBI-9367x2
CBI-9373x2
CAI-9402x2
CBI-8595x2
CBI-7983x2
CBI-9195
CBI-9196
Canon
(See Pg.2)
CBI-7979
(See Pg.6)
CBI-8581
CBI-9223
CBI-8580
(See Pg.4)
CBI-8595x2
CBI-7982x2
CBI-7980
CBI-9191
CBI-9216
(See Pg.3)
CBI-8595x2
CBI-7981x2
CAI-9405x2
CBI-9217
CBI-9147
CBI-8585
CBI-7983
(See Pg.5)
CAI-9080
CAI-9401
CAI-9427x4
CBI-7772x2
CBI-9148

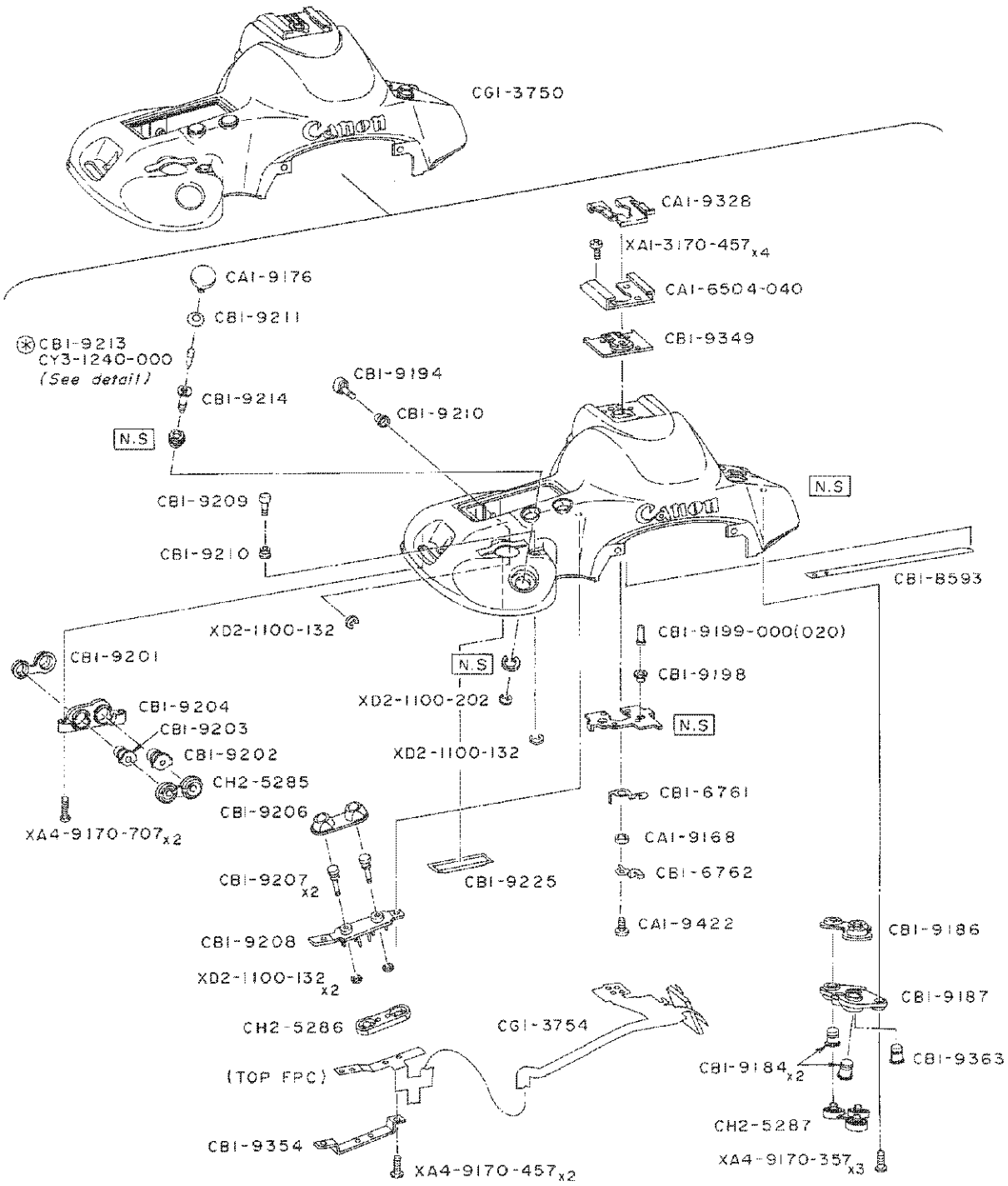
PARTS LIST

REF.NO. C12-8401

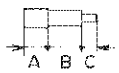
NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-9080-000	D	1	CCOVER, COUPLER
	CA1-9401-000	F	1	SCREW, CROSS-RECESS, PH
	CA1-9402-000	F	2	SCREW, CROSS-RECESS, PH
	CA1-9405-000	F	2	SCREW, CROSS-RECESS, PH
	CA1-9427-000	F	4	SCREW, CROSS-RECESS, PH
	CB1-4255-000	F	1	SCREW, CROSS-RECESS, PH
	CB1-7772-000	F	2	SCREW
*	CB1-7979-000	E	1	SCREW
*	CB1-7980-000	E	1	SCREW
*	CB1-7981-000	E	2	SCREW
*	CB1-7982-000	E	2	SCREW
*	CB1-7983-000	E	3	SCREW
*	CB1-8580-000	E	1	SCREW
*	CB1-8581-000	E	1	SCREW
*	CB1-8585-000	D	1	PLATE, NAME
*	CB1-8595-000	D	6	WASHER (0.1mm)
*	CB1-9147-000	D	1	COVER, FRONT PANEL (LEFT)
*	CB1-9148-000	D	1	COVER, FRONT PANEL (RIGHT)
*	CB1-9167-000	D	1	DIAL, EYEPIECE ADJUSTING
*	CB1-9168-000	E	1	LEVER, EYEPIECE SHUTTER
*	CB1-9191-000	D	1	CAP, REMOTE
*	CB1-9195-000	D	1	MASK, OLC
*	CB1-9196-000	D	1	WINDOW, OLC
*	CB1-9216-000	D	1	TAPE, DOUBLE SIDED (LEFT)
*	CB1-9217-000	D	1	TAPE, DOUBLE SIDED (RIGHT)
*	CB1-9223-000	C	1	SEAL, GRIP
*	CB1-9282-000	E	1	SHAFT, EYEPIECE ADJUSTING
*	CB1-9367-000	D	2	O RING
*	CB1-9373-000	D	2	SPACER, EYEPIECE

REF. NO. CI2-8401

CANON EOS-IV



CY3-1240-000 (XXX) detail ⊛STANDARD



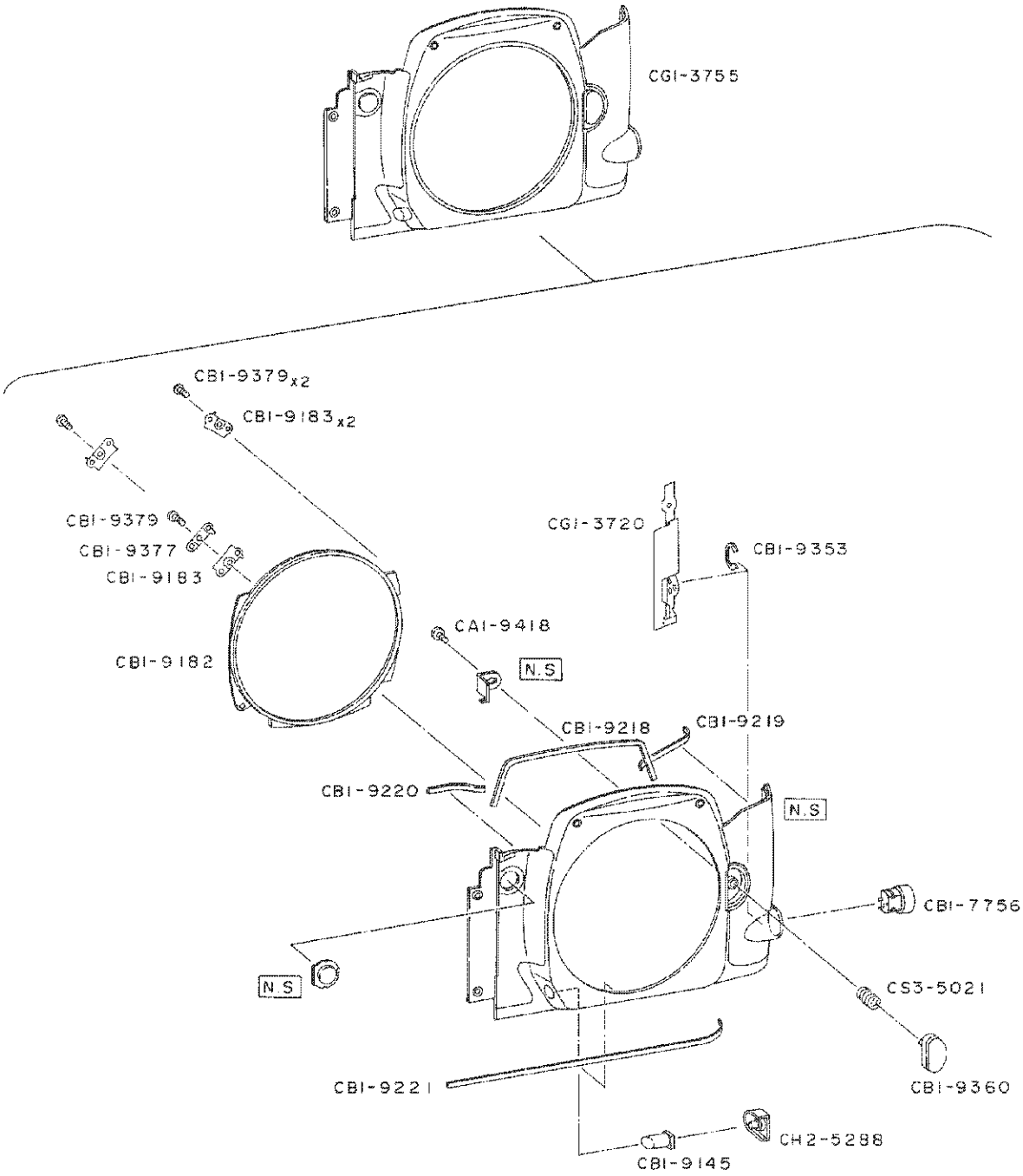
A (mm)	B (mm)	C (mm)	SIZE	A (mm)	B (mm)	C (mm)	SIZE	A (mm)	B (mm)	C (mm)	SIZE
2.00	3.00	0.00	⊛	2.00	2.80	0.00	(020)	2.50	3.20	0.00	(040)
	3.00	1.35	(001)		2.80	1.35	(021)		3.20	1.35	(041)
	3.00	1.25	(002)		2.80	1.25	(022)		3.20	1.25	(042)
	3.20	0.00	(010)	2.50	3.00	0.00	(030)		2.80	0.00	(050)
	3.20	1.35	(011)		3.00	1.35	(031)		2.80	1.35	(051)
	3.20	1.25	(012)		3.00	1.25	(032)		2.80	1.25	(052)

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-6504-040	D	1	SHOE, ACCSESSORY
	CA1-9168-000	D	1	SPACER, INSULATING
	CA1-9176-000	C	1	BOTTON, RELEASE
	CA1-9328-000	C	1	SPRING, PLATE
	CA1-9422-000	F	1	SCREW, CROSS-RECESS, PH
	CB1-6761-000	C	1	CONTACT, ACCSESSORY
	CB1-6762-000	C	1	CONTACT, ACCSESSORY X
*	CB1-8593-000	D	1	TAPE, TOP METAL
*	CB1-9184-000	C	2	BUTTON, MODE
*	CB1-9186-000	C	1	COVER, MODE SWITCH
*	CB1-9187-000	D	1	BASE, MODE SWITCH
*	CB1-9194-000	C	1	BUTTON, ADD
*	CB1-9198-000	C	1	COVER, ACCSESSORY SHOE PIN
*	CB1-9199-000 (020)	D	1	PIN, ACCSESSORY SHOE
*	CB1-9201-000	C	1	COVER, BACK SWITCH
*	CB1-9202-000	C	1	BUTTON, AEL
*	CB1-9203-000	C	1	BUTTON, FPSEL
*	CB1-9204-000	D	1	BASE, BACK SWITCH
*	CB1-9206-000	C	1	COVER, EL-C SWITCH
*	CB1-9207-000	C	2	BUTTON, EL-C
*	CB1-9208-000	D	1	BASE, EL-C SWITCH
*	CB1-9209-000	C	1	BUTTON, FEL
*	CB1-9210-000	C	2	COVER, FEL SWITCH
*	CB1-9211-000	C	1	COVER, RELEASE
*	CB1-9213-000	D	1	PIN, RELEASE
*	CB1-9214-000	D	1	SHAFT, RELEASE
*	CB1-9225-000	C	1	SEAL, DIAL
*	CB1-9349-000	E	1	BASE, ACCESSORY SHOE
*	CB1-9354-000	E	1	HOLDER, EL SWITCH
*	CB1-9363-000	C	1	BOTTON, AF MODE
*	CG1-3750-000	C	1	COVER ASS'Y, TOP
*	CG1-3754-000	D	1	PCB ASS'Y, TOP
*	CH2-5285-000	D	1	SWITCH, BACK
*	CH2-5286-000	D	1	SWITCH, EL-C
*	CH2-5287-000	D	1	SWITCH, MODE
*	CY3-1240-000 (xxx)	D	1	SHAFT, ADJUSTING
	XA1-3170-457	F	4	SCREW
	XA4-9170-357	F	3	SCREW, CROSS-RECESS, PH
	XA4-9170-457	F	2	SCREW, CROSS-RECESS, PH
	XA4-9170-707	F	2	SCREW, CROSS-RECESS, PH
	XD2-1100-132	F	4	WASHER, RETAINING 1.3MM
	XD2-1100-202	F	1	WASHER, RETAINING

CANON EOS-IV

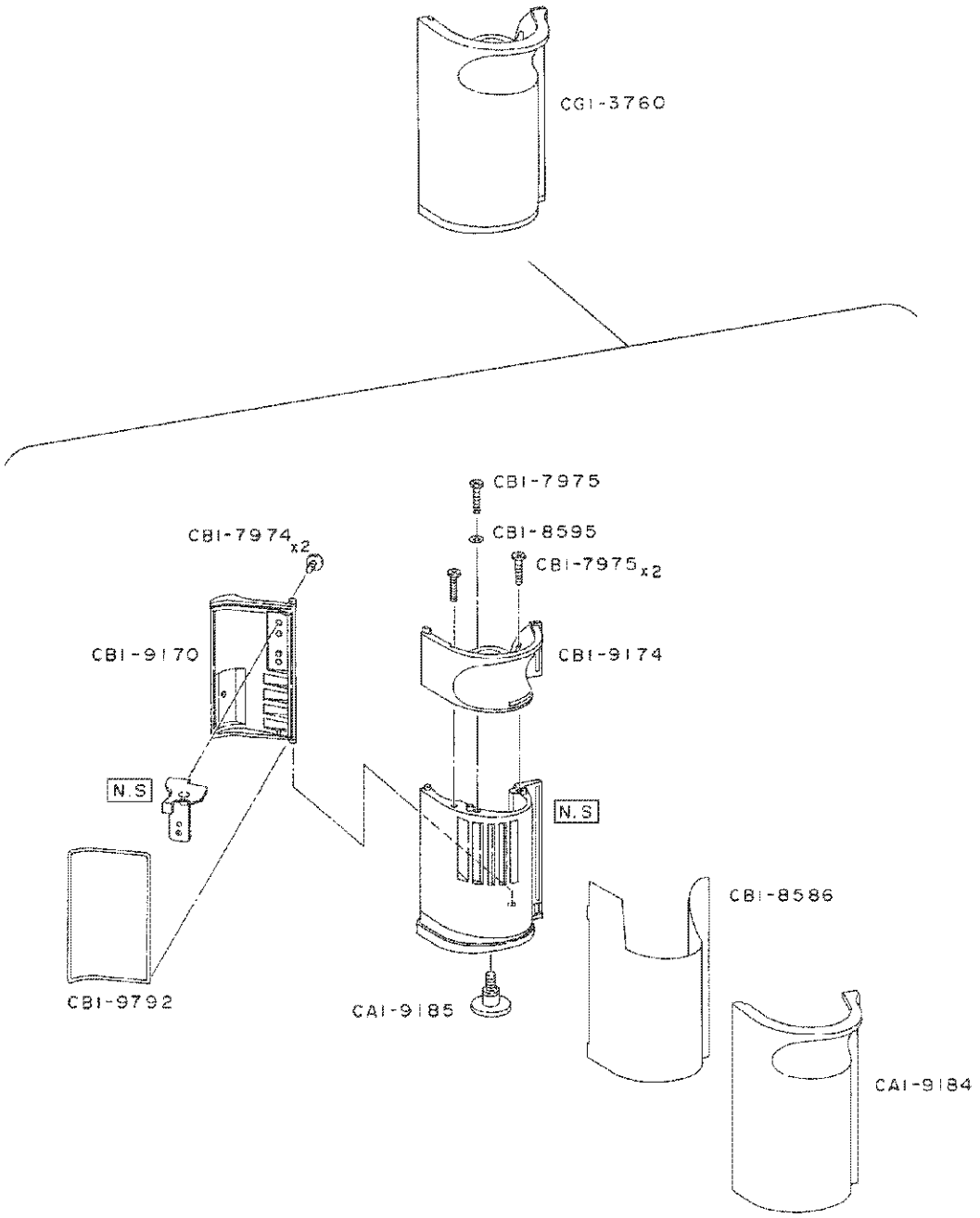

CGI-3755
CBI-9379 x2
CBI-9183 x2
CBI-9379
CBI-9377
CBI-9183
CBI-9182
CGI-3720
CBI-9353
CAI-9418
N.S
CBI-9218
CBI-9219
CBI-9220
N.S
CBI-7756
N.S
CS3-5021
CBI-9221
CBI-9360
CH2-5288
CBI-9145

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
*	CA1-9418-000	E	1	SCREW
	CB1-7756-000	D	1	CONNECTOR, REMOTE
*	CB1-9145-000	D	1	BUTTON, PV
*	CB1-9182-000	D	1	RING, MOUNT
*	CB1-9183-000	D	3	PLATE, MOUNT RING
*	CB1-9218-000	C	1	SEAL, FRONT COVER 1
*	CB1-9219-000	C	1	SEAL, FRONT COVER 2
*	CB1-9220-000	C	1	SEAL, FRONT COVER 3
*	CB1-9221-000	C	1	SEAL, FRONT COVER 4
*	CB1-9353-000	E	1	STOPPER, RT SOCKET
*	CB1-9360-000	D	1	BOTTON, UNLOCK
*	CB1-9377-000	E	1	PLATE, FRONT COVER GND
*	CB1-9379-000	E	3	SCREW
*	CG1-3720-000	D	1	PCB ASS'Y, REMOTE
*	CG1-3755-000	C	1	COVER ASS'Y, FRONT
*	CH2-5288-000	D	1	SWITCH, PV
*	CS3-5021-000	E	1	SPRING, UNLOCK BOTTON

CANON EOS-IV


CG1-3760
CBI-7975
CBI-8595
CBI-7975 x2
CBI-7974 x2
CBI-9170
CBI-9174
N.S
N.S
CBI-8586
CBI-9792
CAI-9185
CAI-9184

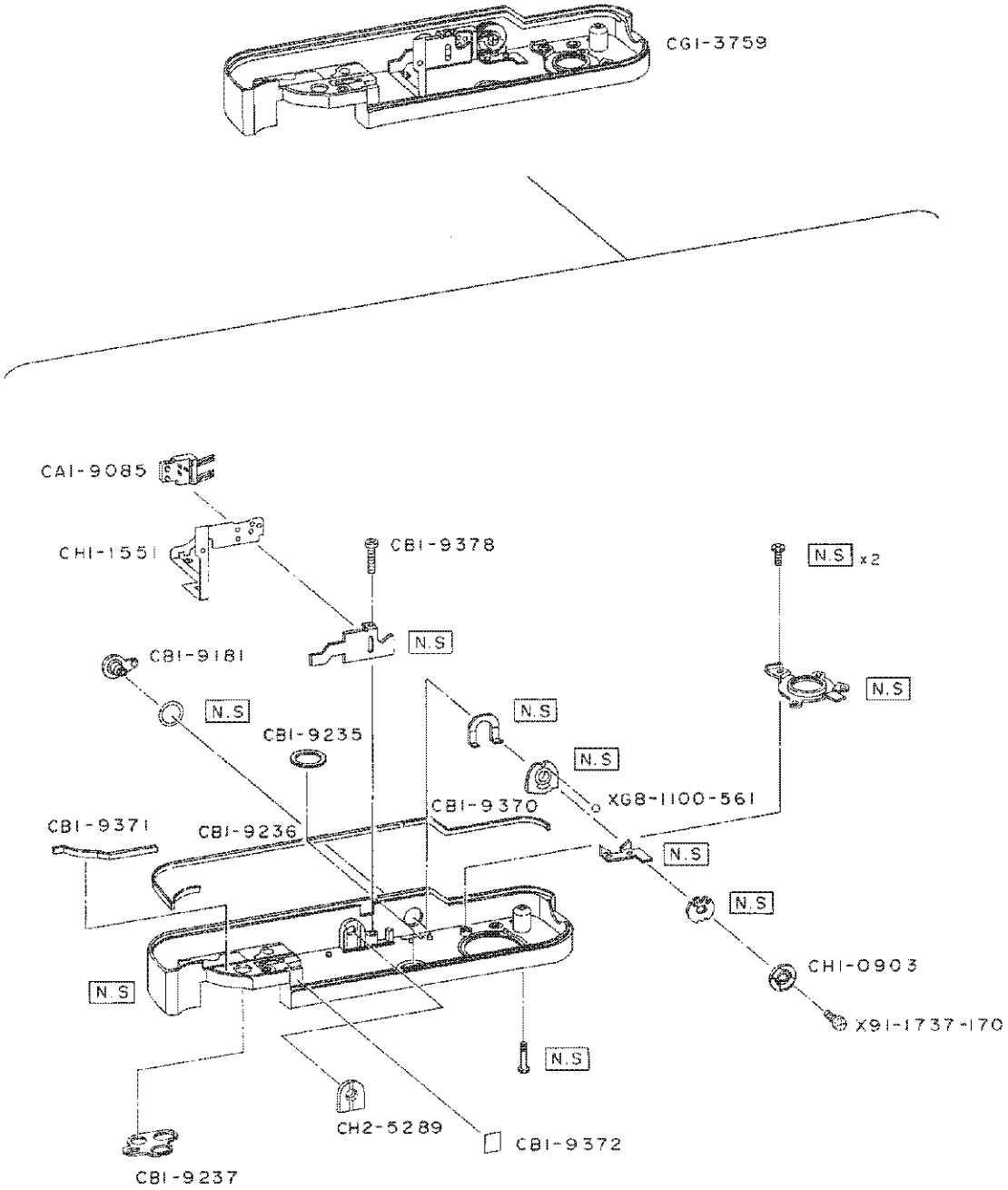
PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-9184-000	E	1	COVERING, GRIP
	CA1-9185-000	F	1	SCREW, CROSS-RECESS, PH
*	CB1-7974-000	E	2	SCREW
*	CB1-7975-000	E	3	SCREW
*	CB1-8586-000	E	1	TAPE, DOUBLE SIDED
*	CB1-8595-000	D	1	WASHER (0.1mm)
*	CB1-9170-000	D	1	COVER, BATTERY
*	CB1-9174-000	D	1	GRIP, TOP
*	CB1-9792-000	C	1	O RING
*	CG1-3760-000	C	1	GRIP UNIT

5

CANON EOS-IV



8) Recording shooting data

The shooting data (see Table 1-4) is recorded automatically in the camera's built-in memory. With EOS Link Software ES-E1, the data can be transferred to a personal computer and then viewed and edited. The memory can hold the standard shooting data (shown by Table 1-4-1 and 1-4-2) for 100 rolls of 36-ex. film. When the memory becomes full, the oldest data for 1 roll is deleted and the data for the latest roll is written in its place. Any of the 27 items of shooting data can be recorded. The shooting data items in Table 1-4-1 are recorded at all times. The shooting data items in Tables 1-4-2 and 1-4-3 can be recorded as selected by the user with EOS Link Software ES-E1. However, all 27 items of data cannot be selected for recording because the CPU's processing speed is unable to handle all of them. With the maximum number of shooting data items selected for recording, the memory can store data for 50 rolls of 36-ex. If only the minimum number of shooting data items are selected for recording, the memory can store data for 200 rolls of 36-ex. film.

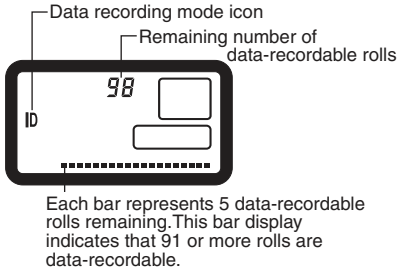

Data recording mode icon
Remaining number of data-recordable rolls
98
ID
Each bar represents 5 data-recordable rolls remaining.This bar display indicates that 91 or more rolls are data-recordable.

Fig. 1-12 Remaining number of data-recordable rolls.

The EOS-1V can only display the remaining number of data-recordable rolls (see Fig. 1-12 for 36-ex. rolls). The shooting data can be viewed only with the EOS Link Software ES-E1. Also, date and time information such as the shooting date and time and film loading date and time are not recorded unless EOS Link Software ES-E1 is used to enable the date and time to be recorded.

Table 1-4 Shooting Data Items

Table 1-4-1 Items Always Recorded

1. User-selectable No.
2. Film ID No.
3. Film-loaded date and time
4. DX-coded film speed
5. Frame No.
6. Picture-taking mode
7. Multiple exposures

Table 1-4-2 Items Always Recorded

1. Focal length
2. Lens max. aperture
3. Shutter speed
4. Aperture
5. Manually-set ISO speed
6. Exposure compensation amount
7. Flash exposure compensation amount
8. Flash mode
9. Metering mode
10. Film advance mode
11. AF mode

Table 1-4-3 Extra Shooting Data Items

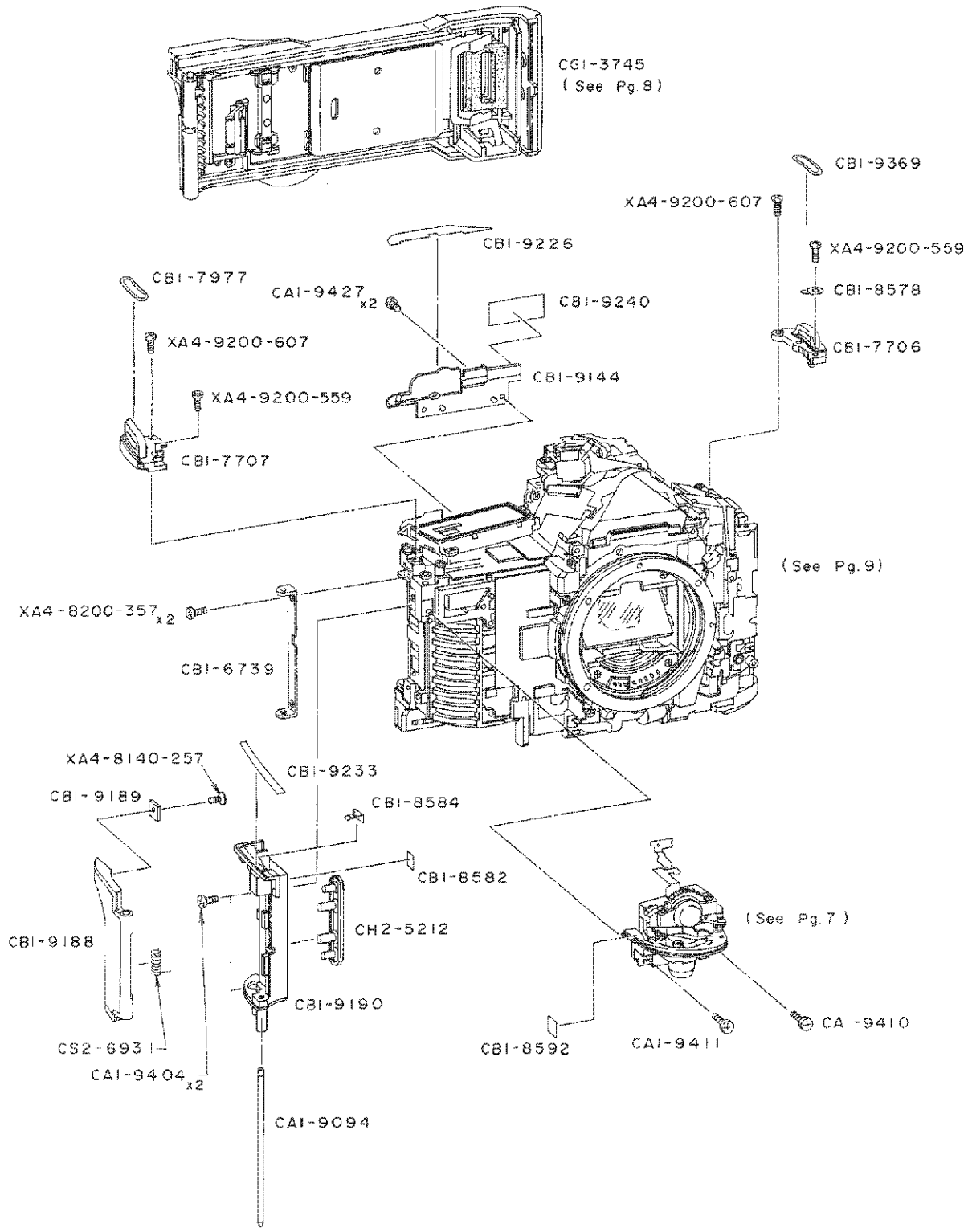
1. Bulb exposure time
2. Date
3. Time (hr., min., sec.)
4. Custom Function settings
5. Focusing point selection
6. Focusing points achieving focus
7. Battery-loaded date and time

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-9085-000	D	1	CONTACT, MAIN SWITCH
*	CB1-9181-000	D	1	LEVER, MAIN SWITCH
*	CB1-9235-000	C	1	SEAL, TRIPOD
*	CB1-9236-000	C	1	SEAL, BOTTOM COVER 1
*	CB1-9237-000	C	1	SEAL, BOTTOM COVER (GRIP)
*	CB1-9370-000	C	1	SEAL, BOTTOM COVER 2
*	CB1-9371-000	C	1	SEAL, BOTTOM COVER 3
*	CB1-9372-000	C	1	SEAL, BOTTOM COVER
*	CB1-9378-000	E	1	SCREW
	CH1-0903-000	D	1	BOARD, MAIN SWITCH
*	CH1-1551-000	D	1	FPC, MS
*	CH2-5289-000	D	1	SWITCH, REWIND
*	CG1-3759-000	D	1	COVER ASS'Y, BOTTOM
	X91-1737-170	F	1	SCREW, CROSS-RECESS, PH
	XG8-1100-561	D	1	BALL, CLICK

CANON EOS-IV


CGI-3745
(See Pg.8)
CBI-9369
XA4-9200-607
XA4-9200-559
CBI-8578
CBI-7706
CBI-9226
CBI-7977
CAI-9427 x2
CBI-9240
XA4-9200-607
CBI-9144
XA4-9200-559
CBI-7707
(See Pg.9)
XA4-8200-357 x2
CBI-6739
XA4-8140-257
CBI-9233
CBI-9189
CBI-8584
CBI-8582
CBI-9188
CH2-5212
CBI-9190
CS2-6931
CAI-9404 x2
CAI-9094
(See Pg.7)
CAI-9410
CAI-9411
CBI-8592

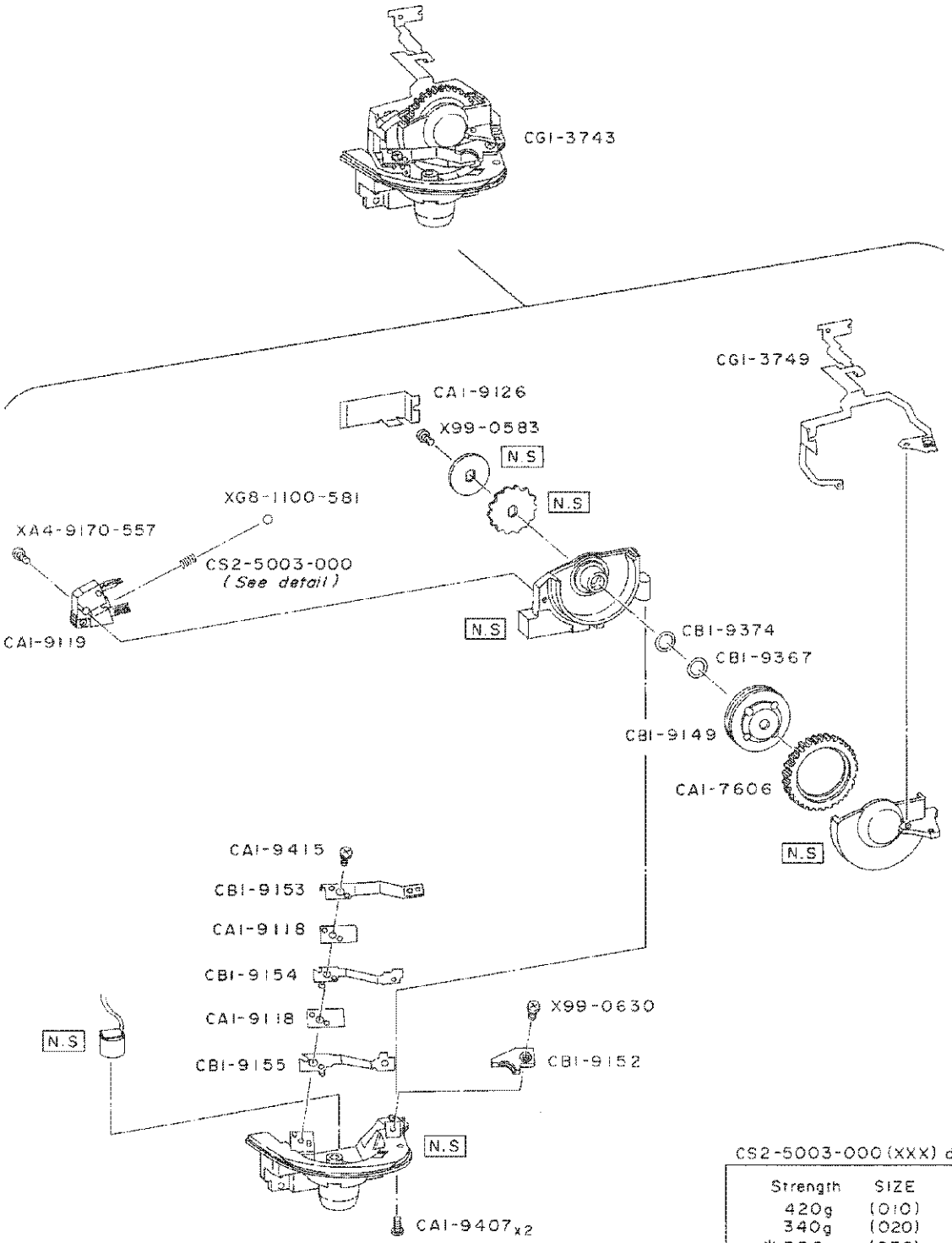
PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-9094-000	E	1	SHAFT, PALM WING
	CA1-9404-000	F	2	SCREW, CROSS-RECESS, PH
	CA1-9410-000	F	1	SCREW, CROSS-RECESS, PH
	CA1-9411-000	F	1	SCREW, CROSS-RECESS, PH
	CA1-9427-000	F	2	SCREW, CROSS-RECESS, PH
	CB1-6739-000	E	1	SHAFT, BACK COVER
*	CB1-7706-000	D	1	RING, STRAP (L)
*	CB1-7707-000	D	1	RING, STRAP (R)
*	CB1-7977-000	C	1	SEAL, STRAP R
*	CB1-8578-000	E	1	PLATE, STRAP L GND
*	CB1-8582-000	D	1	TAPE, PALM SWITCH HOLDER
*	CB1-8584-000	E	1	PLATE, STRAP R GND
*	CB1-8592-000	D	1	TAPE, DIAL INSULATION
*	CB1-9144-000	E	1	BASE, BACK SWITCH
*	CB1-9188-000	C	1	COVER, PARM WING
*	CB1-9189-000	D	1	PLATE, CATCH
*	CB1-9190-000	E	1	HOLDER, PALM SWITCH
*	CB1-9226-000	C	1	SEAL, BACK SWITCH
*	CB1-9233-000	C	1	SEAL, HINGE COVER (TOP)
*	CB1-9240-000	C	1	SEAL, BODY R
*	CB1-9369-000	C	1	SEAL, STRAP L
*	CG1-3745-000	C	1	COVER ASS'Y, BACK
	CH2-5212-000	D	1	SWITCH, PARM
	CS2-6931-000	D	1	SPRING, COIL
*	XA4-8140-257	F	1	SCREW
	XA4-8200-357	F	2	SCREW
	XA4-9200-559	F	2	SCREW, CROSS-RECESS, PH
	XA4-9200-607	F	2	SCREW, CROSS-RECESS, PH

7

CANON EOS-IV



CS2-5003-000 (XXX) detail

Strength	SIZE
420g	(010)
340g	(020)
* 300g	(030)

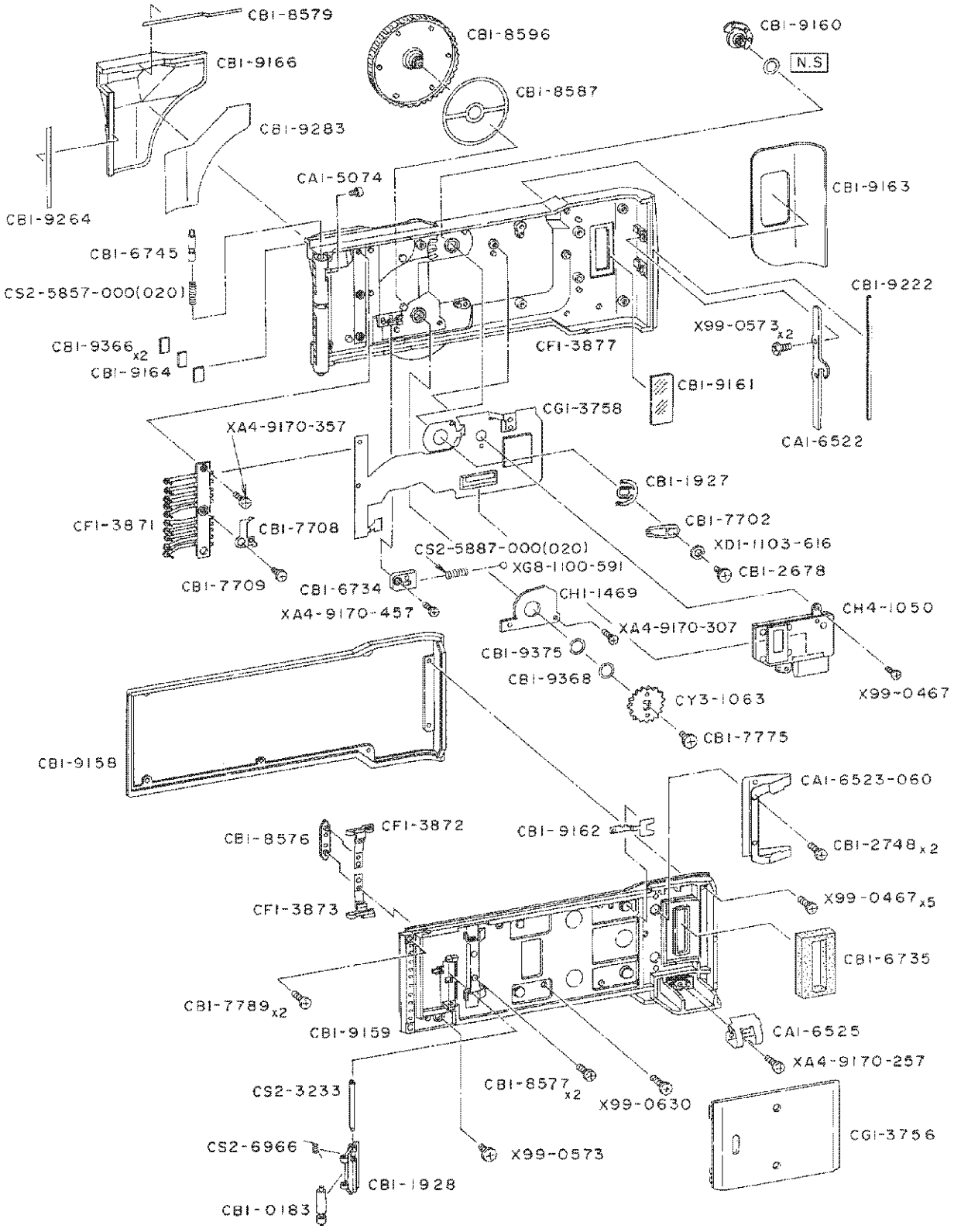
* STANDARD

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-7606-000	D	1	RING, DIAL
	CA1-9118-000	D	2	SPACER, CONTACT
	CA1-9119-000	E	1	CONTACT, DAIL
	CA1-9126-000	D	1	COVER, DIAL CONTACT
	CA1-9407-000	F	2	SCREW, CROSS-RECESS, PH
	CA1-9415-000	F	1	SCREW, CROSS-RECESS, PH
*	CB1-9149-000	D	1	DIAL, MODE CHANGE
*	CB1-9152-000	E	1	PLATE, RELEASE STOPPER
*	CB1-9153-000	D	1	CONTACT, RELEASE GROUND
*	CB1-9154-000	D	1	CONTACT, RELEASE SWITCH 1
*	CB1-9155-000	D	1	CONTACT, RELEASE SWITCH 2
*	CB1-9367-000	D	1	O RING
*	CB1-9374-000	D	1	SPACER, DIAL
*	CG1-3743-000	D	1	DIAL UNIT
*	CG1-3749-000	D	1	PCB ASS'Y, AD SWITCH
	CS2-5003-000 (xxx)	E	1	SPRING, COIL
	X99-0583-000	F	1	SCREW, CROSS-RECESS, PH
	X99-0630-000	F	1	SCREW, CROSS-RECESS, PH
	XA4-9170-557	F	1	SCREW, CROSS-RECESS, PH
	XG8-1100-581	F	1	BALL, STEEL

CANON EOS-IV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CBI-9283
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CAI-5074
CBI-9163
CBI-6745
CS2-5857-000(020)
CBI-9366 x2
CBI-9164
CFI-3877
CBI-9222
X99-0573 x2
CBI-9161
CAI-6522
CGI-3758
XA4-9170-357
CBI-1927
CFI-3871
CBI-7708
CBI-7702
XDI-1103-616
CS2-5887-000(020)
XG8-1100-591
CBI-2678
CBI-7709
CBI-6734
XA4-9170-457
CHI-1469
CH4-1050
XA4-9170-307
CBI-9375
CBI-9368
X99-0467
CY3-1063
CBI-7775
CBI-9158
CAI-6523-060
CBI-8576
CFI-3872
CBI-9162
CBI-2748 x2
CFI-3873
X99-0467 x5
CBI-6735
CBI-7789 x2
CBI-9159
CAI-6525
XA4-9170-257
CS2-3233
CBI-8577 x2
X99-0630
CS2-6966
X99-0573
CGI-3756
CBI-1928
CBI-0183

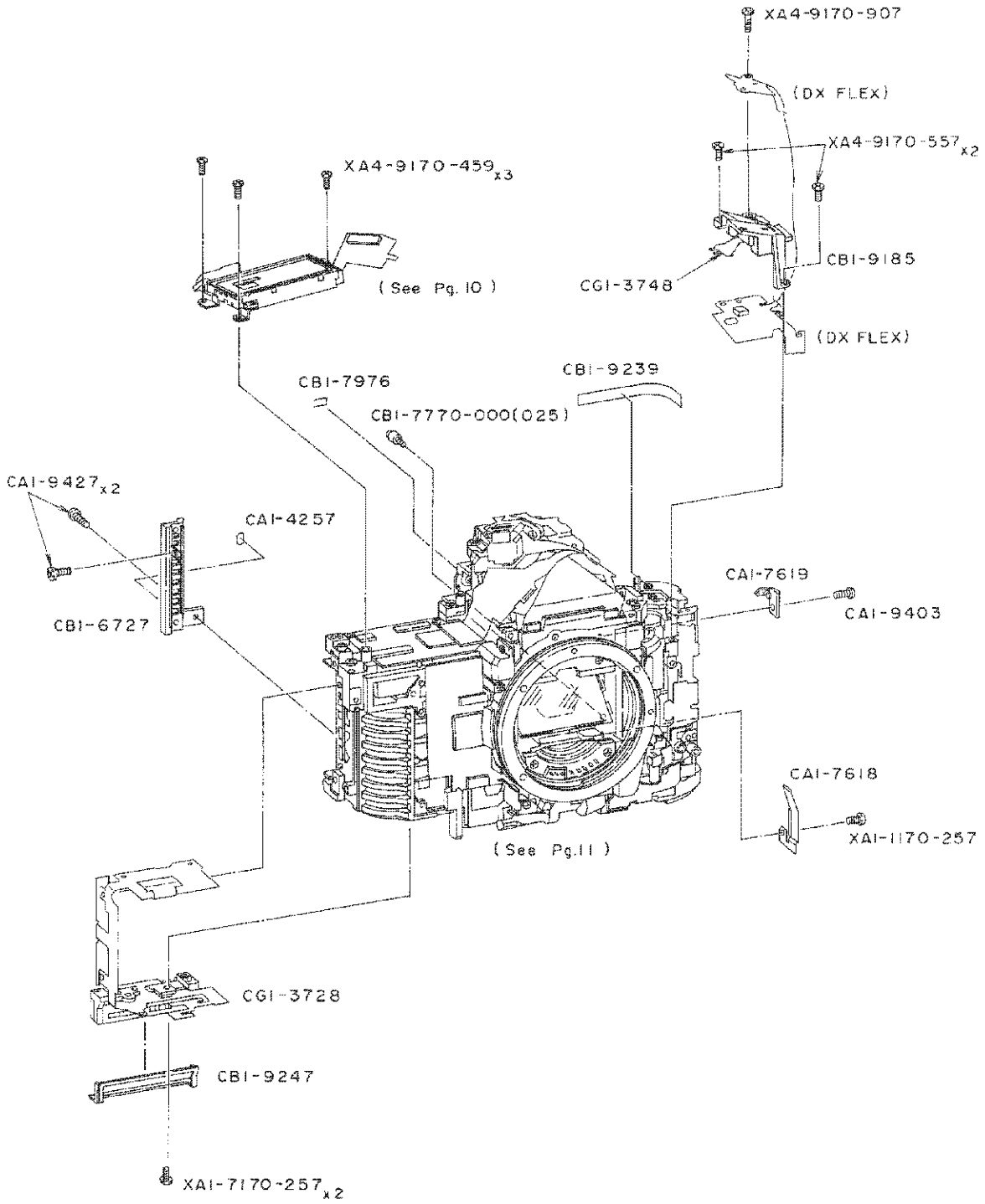
PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-5074-000	E	1	SCREW, STOPPER
	CA1-6522-000	E	1	CLAW, BACK COVER
	CA1-6523-060	E	1	HOLDER, FILM MAGAZINE
	CA1-6525-000	E	1	PLATE, SPRING
	CB1-0183-000	D	1	ROLLER-1, BACK COVER GUIDE
	CB1-1927-000	E	1	CONTACT, DIAL LOCK SWITCH
	CB1-1928-000	E	1	HOLDER, ROLLER
	CB1-2678-000	F	1	SCREW
	CB1-2748-000	E	2	SCREW, CROSS-RECESS, PH
	CB1-6734-000	E	1	HOLDER, CLICK
	CB1-6735-000	E	1	SHIELD, LIGHT DX
	CB1-6745-000	E	1	SHAFT, HINGE
*	CB1-7702-000	D	1	PLATE, S-DAIL CLICK
*	CB1-7708-000	D	1	PLATE, DBP ROLL GND
*	CB1-7709-000	D	1	SCREW
	CB1-7775-000	F	1	SCREW
	CB1-7789-000	F	2	SCREW
*	CB1-8576-000	E	1	PLATE, FILM GUIDE
*	CB1-8577-000	E	2	SCREW
*	CB1-8579-000	D	1	TAPE, DB RUBBER 2
*	CB1-8587-000	D	1	SPACER, S-DIAL 1
*	CB1-8596-000	D	1	DIAL, BACK COVER
*	CB1-9158-000	C	1	SEAL, BACK COVER
*	CB1-9159-000	D	1	COVER, BACK INNER
*	CB1-9160-000	D	1	LEVER, BACK DIAL SWITCH
*	CB1-9161-000	D	1	WINDOW, FILM
*	CB1-9162-000	E	1	PLATE, BACK COVER GND
*	CB1-9163-000	C	1	COVERING, BACK COVER
*	CB1-9164-000	E	1	MAGNET, PERMANENT
*	CB1-9166-000	C	1	GRIP, BACK COVER
*	CB1-9222-000	C	1	SEAL, BACK COVER L
*	CB1-9264-000	C	1	TAPE, DOUBLE SIDED
*	CB1-9283-000	C	1	TAPE, DOUBLE SIDED
*	CB1-9366-000	E	2	PLATE, MAGNET
*	CB1-9368-000	D	1	O RING
*	CB1-9375-000	D	1	SPACER, S-DIAL
*	CF1-3871-000	D	1	BACK SIGNAL CONTACT ASS'Y
*	CF1-3872-000	D	1	FILM GUIDE ASS'Y 1
*	CF1-3873-000	D	1	FILM GUIDE ASS'Y 2
*	CF1-3877-000	D	1	COVER ASS'Y, BACK
*	CG1-3756-000	D	1	PLATE, PRESSURE
*	CG1-3758-000	D	1	PCB ASS'Y, BP
	CH1-1469-000	D	1	PCB, BACK DIAL
*	CH4-1050-000	E	1	DATA MODULE UNIT
	CS2-3233-000	E	1	SHAFT, ROLLER HOLDER
	CS2-5857-000 (020)	E	1	SPRING, B-H
	CS2-5887-000 (020)	E	1	SPRING, CLICK
	CS2-6966-000	E	1	SPRING, ROLLER
	CY3-1063-000	E	1	CONTACT, DIAL ASS'Y
	X99-0467-000	F	6	SCREW, CROSS-RECESS, PH
	X99-0573-000	F	3	SCREW, CROSS-RECESS, PH
	X99-0630-000	F	1	SCREW, CROSS-RECESS, PH
	XA4-9170-257	F	1	SCREW, CROSS-RECESS, PH
	XA4-9170-307	F	1	SCREW, CROSS-RECESS, PH
	XA4-9170-357	F	1	SCREW, CROSS-RECESS, PH
	XA4-9170-457	F	1	SCREW, CROSS-RECESS, PH
	XD1-1103-616	F	1	WASHER
	XG8-1100-591	F	1	BALL, STEEL

REF. NO. C12-8401

CANON EOS-IV

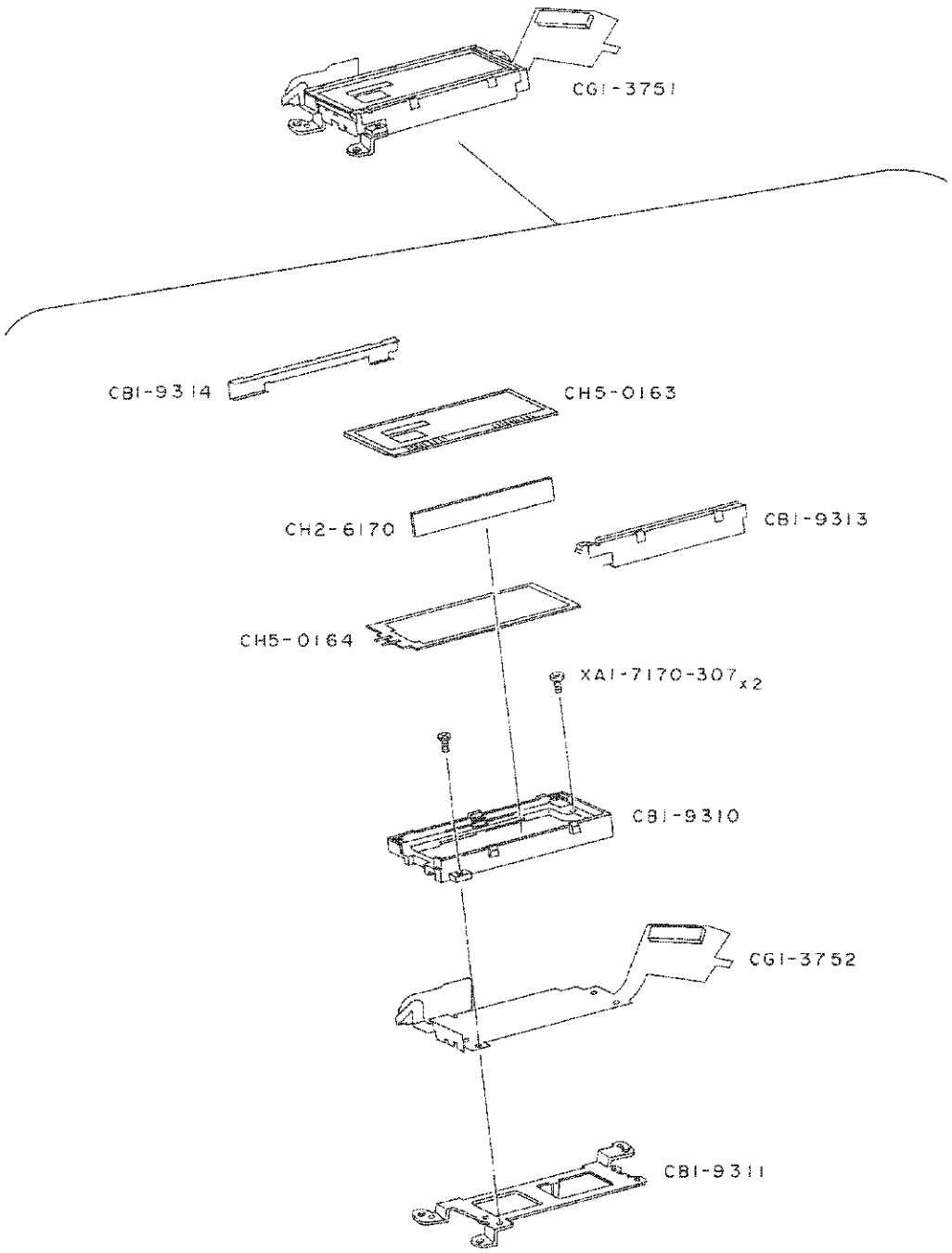


PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-4257-000	D	1	SEAL, FILM
	CA1-7618-000	E	1	SPRING, PLATE
	CA1-7619-000	E	1	HOLDER, CASSETTE
	CA1-9403-000	F	1	SCREW, CROSS-RECESS, PH
	CA1-9427-000	F	2	SCREW, CROSS-RECESS, PH
	CB1-6727-000	E	1	COVER, BACK CONTACT
	CB1-7770-000 (025)	E	1	SHAFT, FILM GUIDE
*	CB1-7976-000	C	1	SEAL, BODY
*	CB1-9185-000	E	1	BASE, MODE SWITCH
*	CB1-9239-000	C	1	SEAL, BODY L RUBBER
*	CB1-9247-000	C	1	SEAL, SYSTEM CONNECTOR
*	CG1-3728-000	E	1	SYSTEM CONNECTOR UNIT
*	CG1-3748-000	D	1	PCB ASS'Y, HV
	XA1-1170-257	F	1	SCREW, CROSS-RECESS, PH
	XA1-7170-257	F	2	SCREW, CROSS-RECESS, PH
	XA4-9170-459	F	3	SCREW, CROSS-RECESS, PH
	XA4-9170-557	F	2	SCREW, CROSS-RECESS, PH
	XA4-9170-907	F	1	SCREW, CROSS-RECESS, PH

CANON EOS-IV


CG1-3751
CB1-9314
CH5-0163
CH2-6170
CB1-9313
CH5-0164
XA1-7170-307 x2
CB1-9310
CG1-3752
CB1-9311

9) Film ID Imprinting

The film leader is always imprinted with a user-selectable 2-digit number (00 - 99) and a sequential 3-digit (001 - 999) film ID No. (See Figs. 1-13 and 1-14.) When multiple EOS-1V cameras are used, the user-selectable No. can be used to identify which EOS-1V was used to shoot that particular roll of film. The film ID No. counts up automatically each time a new roll of film is loaded. The film ID No. is used as a reference to view or edit the shooting data of the corresponding roll with EOS Link Software ES-E1.

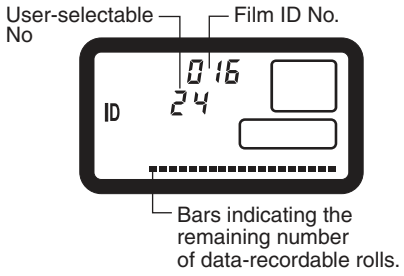


Fig. 1-13 User-selectable No. and film ID No. display.

The imprinting mechanism is on the standard camera back. Immediately after the film advances to frame 1, a transparent LCD numeral is imprinted on the film by a mini lamp. The imprinting time is 25 ms to 180 ms (depending on the ISO film speed) at 20°C. The power source is the same as the camera's. The imprinting cannot be turned off. The EOS-1V camera back cannot be attached to the EOS-1N because the hinge length differs. It also cannot be attached to the EOS-3 because its inner parts will hit the EOS-3's film transport detector. Closing the camera back by force will have it pop up. (The Dateback DB-E2 can be attached to the EOS-1V.)

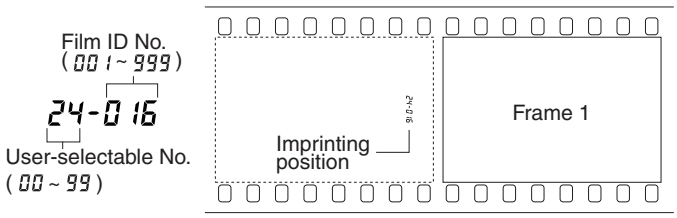


Fig. 1-14 Imprinting position of user-selectable No. and film ID No. (Actual size)

10) Power Source

The power source is one lithium 2CR5 battery which can power the film transport for 50 rolls of 36-ex. film at 20°C.

11) Dimensions and Weight

The camera dimensions are 161 (W) × 120.8 (H) × 70.8 (D) mm. Body thickness is 54.8 mm. The camera body weighs 945 g without the battery. (The 2CR5 battery weighs 40 g.)

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
*	CB1-9310-000	E	1	CASE, OLC
*	CB1-9311-000	E	1	BASE, OLC
*	CB1-9313-000	E	1	HOLDER, OLC 1
*	CB1-9314-000	E	1	HOLDER, OLC 2
*	CG1-3751-000	D	1	LCD UNIT (OUTSIDE)
*	CG1-3752-000	D	1	PCB ASS'Y, DISPLAY
*	CH2-6170-000	E	1	CONNECTOR, OLC
*	CH5-0163-000	D	1	LCD, EXTERNAL
*	CH5-0164-000	D	1	ELECTRO LUMINESCENCE
	XA1-7170-307	F	2	SCREW

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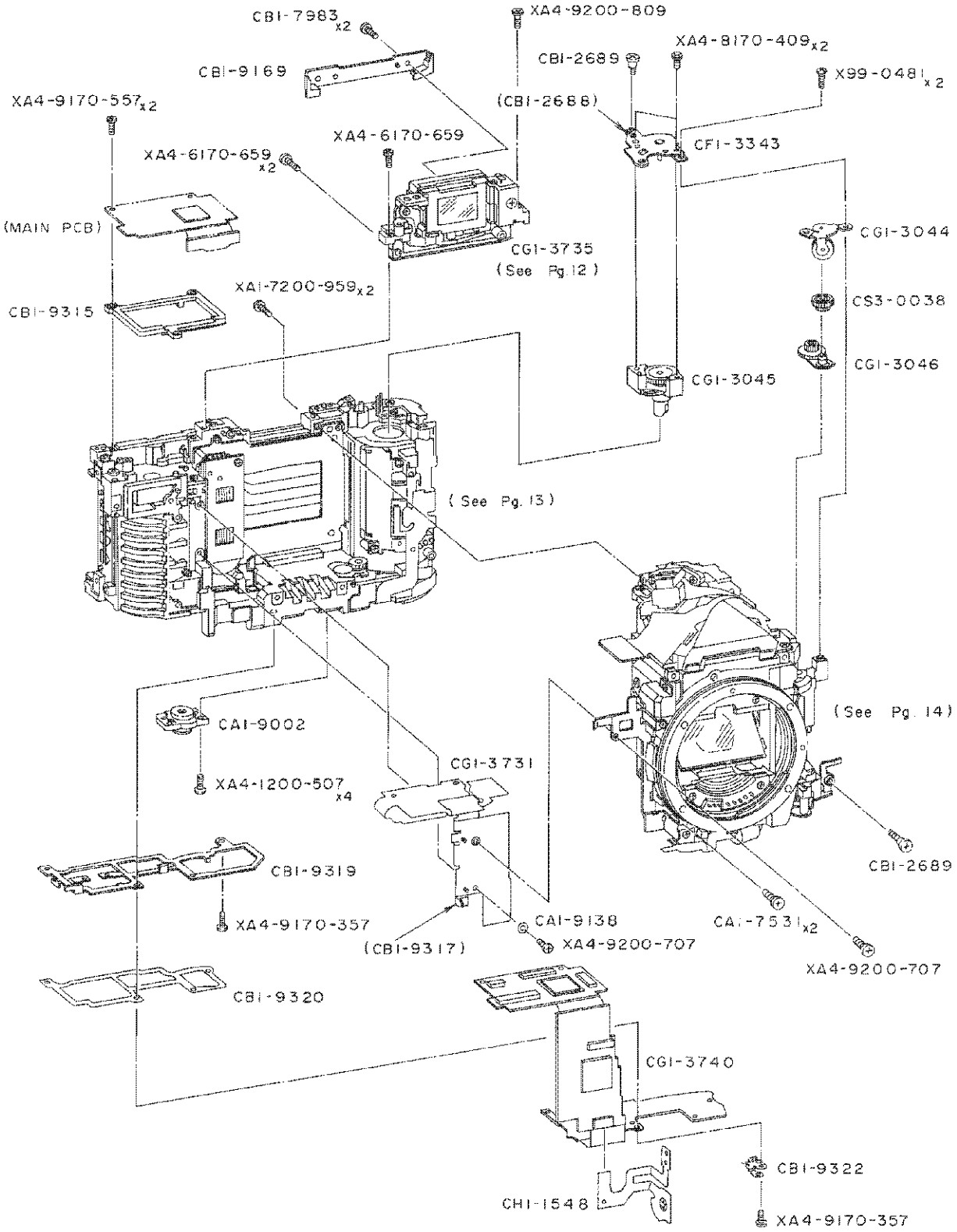
CANON EOS-IV

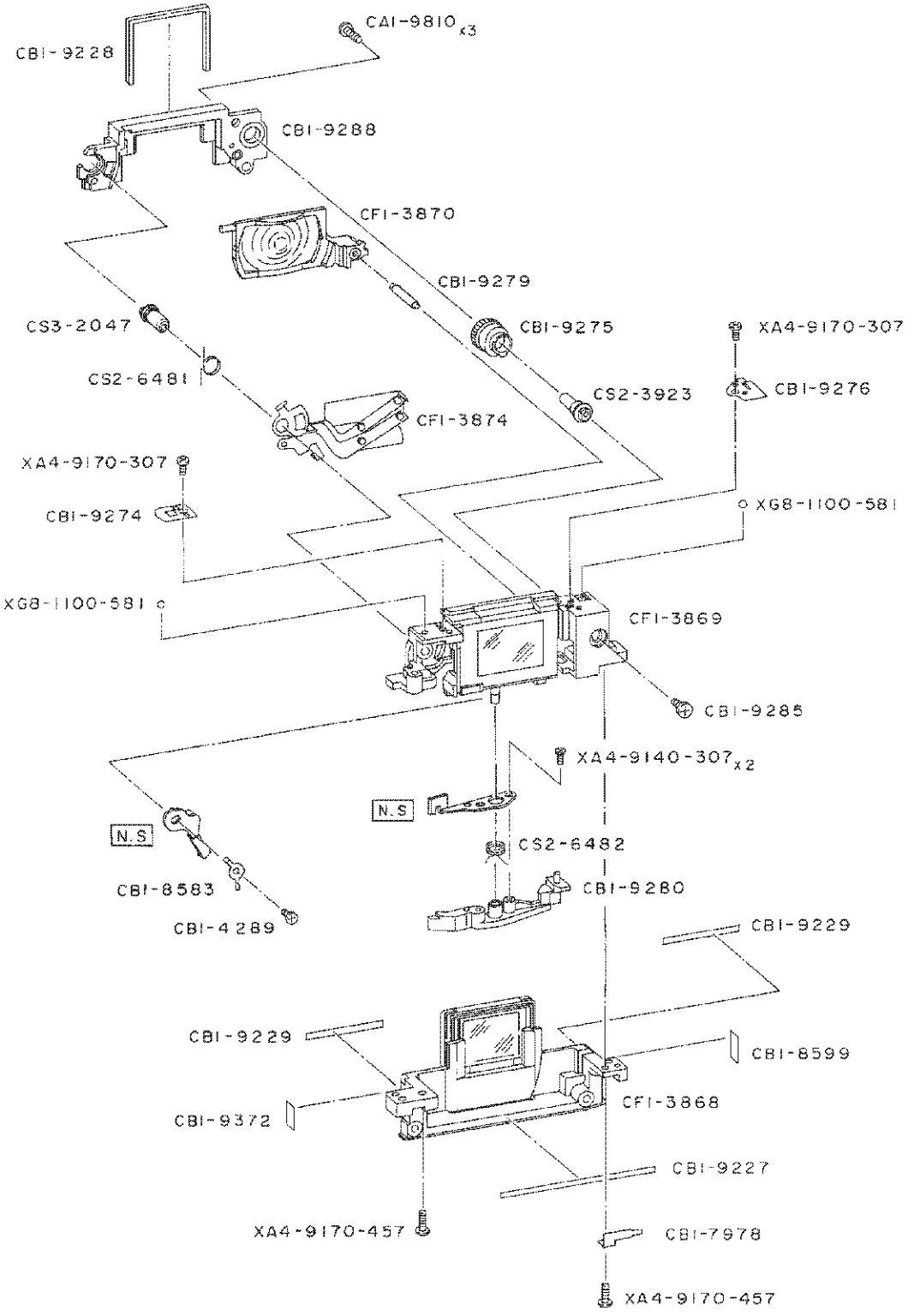


PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-7531-000	F	2	SCREW, CROSS-RECESS, PH
	CA1-9002-000	D	1	SOCKET, TRIPOD
	CA1-9138-000	E	1	WASHER, DC/DC
	CB1-2688-000	E	1	VIBRATION MOUNT
	CB1-2689-000	F	2	SCREW, CROSS-RECESS, PH
*	CB1-7983-000	E	2	SCREW
*	CB1-9169-000	E	1	COVER, EYEPIECE
*	CB1-9315-000	E	1	BASE, CONNECTOR
*	CB1-9317-000	E	1	HOLDER, DC/DC
*	CB1-9319-000	E	1	BASE, BOTTOM
*	CB1-9320-000	E	1	SHEET, BOTTOM
*	CB1-9322-000	E	1	PLATE, RAG-GND
	CF1-3343-000	E	1	FORK PRESSURE UNIT
	CG1-3044-000	D	1	REWIND WORM GEAR UNIT
	CG1-3045-000	D	1	FORK UNIT
	CG1-3046-000	D	1	REWIND PLANETARY GEAR UNIT
*	CG1-3731-000	D	1	PCB ASS'Y, DC/DC
*	CG1-3735-000	D	1	EYEPIECE UNIT
*	CG1-3740-000	D	1	PCB ASS'Y, MAIN
*	CH1-1548-000	D	1	FPC, SPDN
	CS3-0038-000	D	1	GEAR, REWIND SUN
	X99-0481-000	F	2	SCREW, CROSS-RECESS, PH
*	XA1-7200-959	F	2	SCREW
	XA4-1200-507	F	4	SCREW, CROSS-RECESS, PH
	XA4-6170-659	F	3	SCREW
	XA4-8170-409	F	2	SCREW, CROSS-RECESS, FCH
	XA4-9170-357	F	2	SCREW, CROSS-RECESS, PH
	XA4-9170-557	F	2	SCREW, CROSS-RECESS, PH
	XA4-9200-707	F	2	SCREW
	XA4-9200-809	F	1	SCREW, CROSS-RECESS, PH

CANON EOS-IV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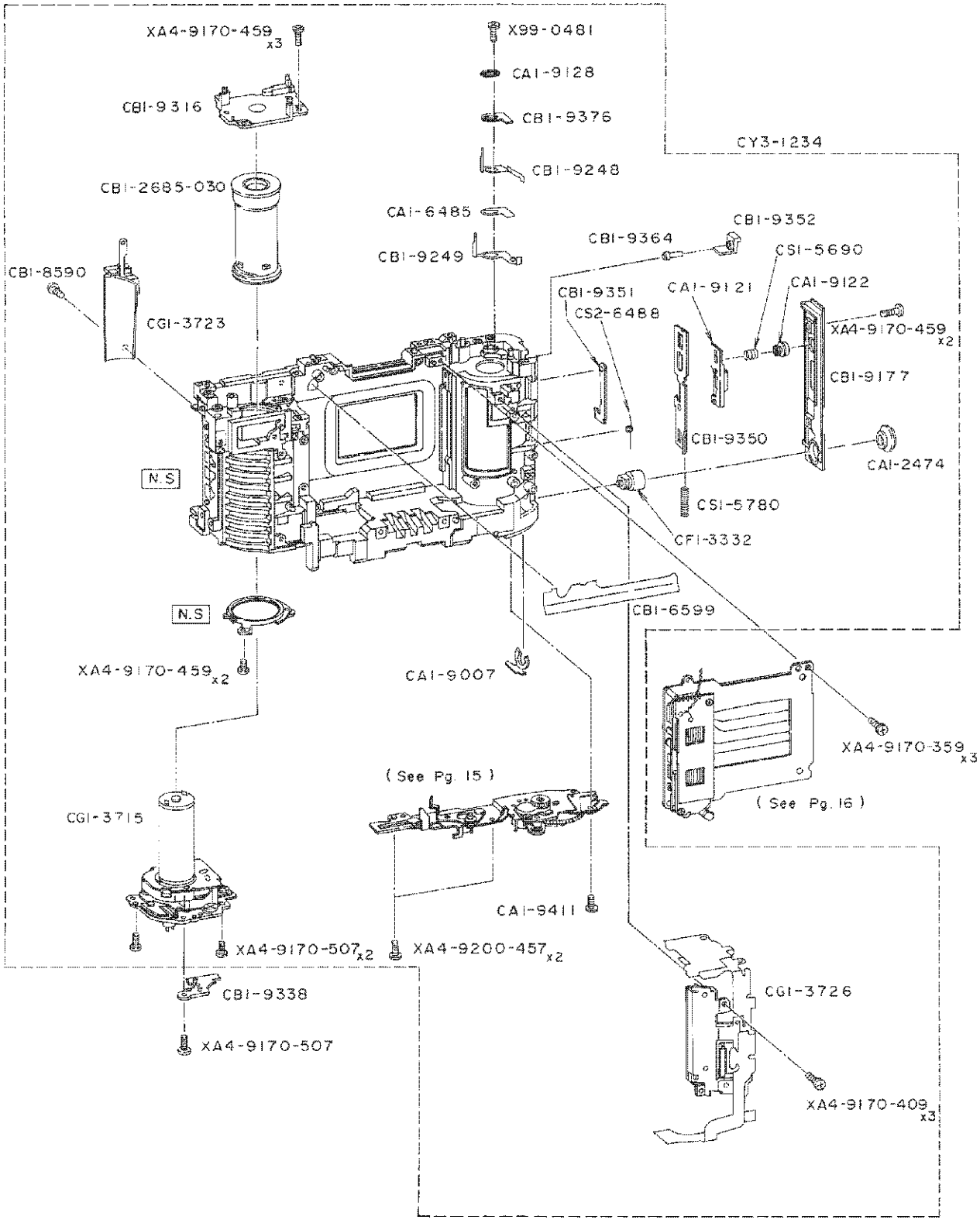
CBI-9279
CS3-2047
CBI-9275
XA4-9170-307
CS2-6481
CS2-3923
CBI-9276
CFI-3874
XA4-9170-307
CBI-9274
XG8-1100-581
XG8-1100-581
CFI-3869
CBI-9285
XA4-9140-307 x2
N.S
N.S
CS2-6482
CBI-8583
CBI-9280
CBI-4289
CBI-9229
CBI-9229
CBI-8599
CFI-3868
CBI-9372
CBI-9227
XA4-9170-457
CBI-7978
XA4-9170-457

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-9810-000	E	3	SCREW
*	CB1-4289-000	E	1	SCREW
*	CB1-7978-000	E	1	PLATE, EYEPIECE LUG-GND
*	CB1-8583-000	E	1	PLATE, EYEPIECE SHUTTER-GND
*	CB1-8599-000	C	1	SEAL, EYEPIECE 3
*	CB1-9227-000	C	1	SEAL, EYEPIECE 3
*	CB1-9228-000	C	1	SEAL, EYEPIECE 1
*	CB1-9229-000	C	2	SEAL, EYEPIECE 2
*	CB1-9274-000	E	1	SPRING, EYEPIECE CLICK
*	CB1-9275-000	D	1	CAM, EL FEED
*	CB1-9276-000	E	1	SPRING, EL CLICK
*	CB1-9279-000	E	1	SHAFT, EYEPIECE YOKE
*	CB1-9280-000	D	1	LEVER, EYEPIECE YOKE
*	CB1-9285-000	E	1	SCREW
*	CB1-9288-000	D	1	CASE, EYEPIECE B
*	CB1-9372-000	C	1	SEAL, EYEPIECE RIGHT
*	CF1-3868-000	D	1	LENS ASS'Y, EYEPIECE 1
*	CF1-3869-000	D	1	LENS ASS'Y, EYEPIECE 2
*	CF1-3870-000	D	1	LENS ASS'Y, EYEP. ADJUSTING
*	CF1-3874-000	D	1	EYEPIECE SHUTTER ASS'Y
*	CS2-3923-000	E	1	SHAFT, EYEPIECE DRIVE
*	CS2-6481-000	E	1	SPRING, EYEPIECE SHUTTER
*	CS2-6482-000	E	1	SPRING, EYEPIECE YOKE
*	CS3-2047-000	E	1	SHAFT, FEED CAM
	XA4-9140-307	F	2	SCREW
	XA4-9170-307	F	2	SCREW, CROSS-RECESS, PH
	XA4-9170-457	F	2	SCREW, CROSS-RECESS, PH
	XG8-1100-581	F	2	BALL, STEEL

CANON EOS-IV

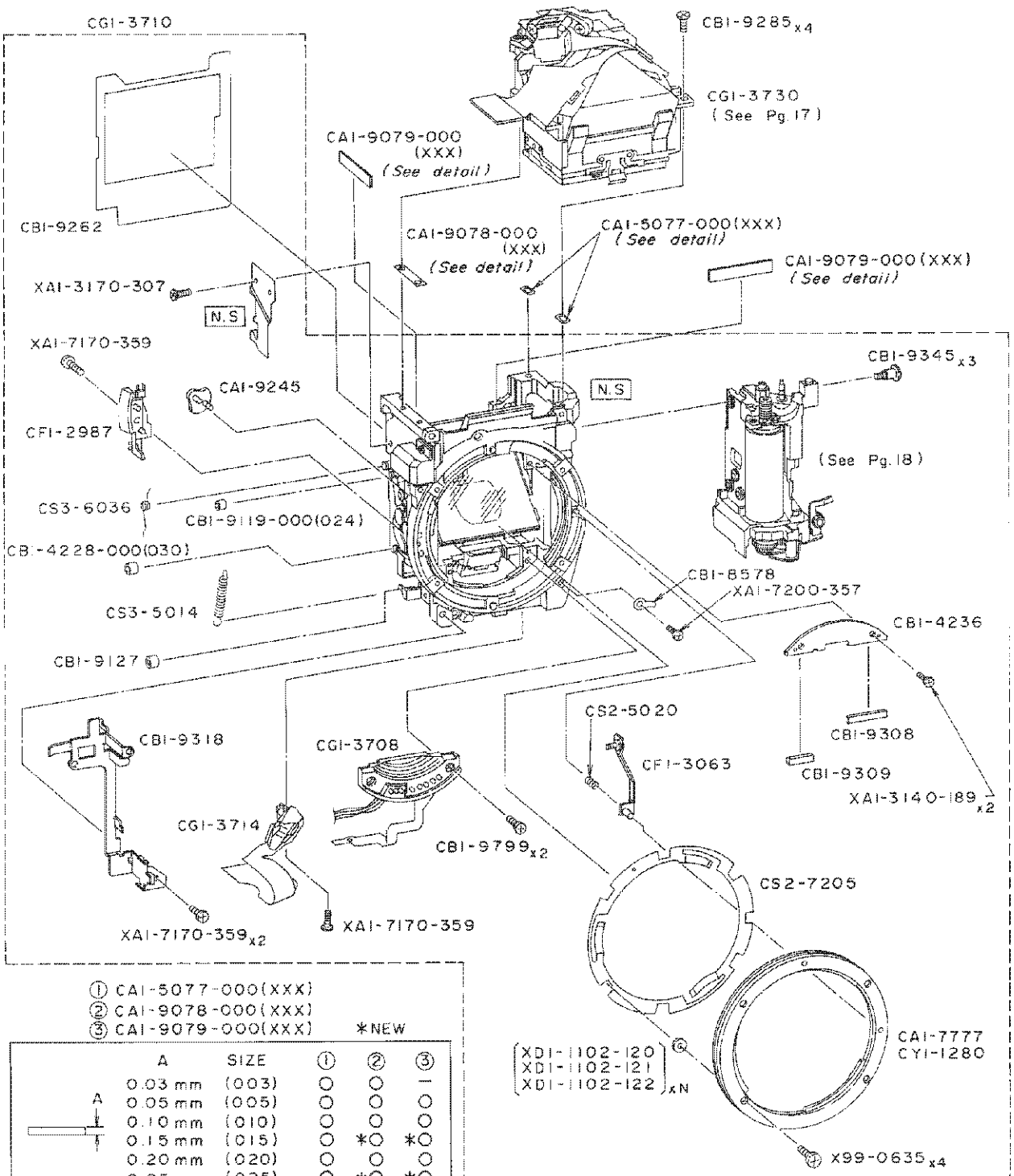

XA4-9170-459 x3
X99-0481
CAI-9128
CBI-9316
CBI-9376
CY3-1234
CBI-9248
CBI-2685-030
CAI-6485
CBI-9352
CBI-9364
CBI-9249
CSI-5690
CBI-8590
CBI-9351
CAI-9121
CAI-9122
CS2-6488
CGI-3723
XA4-9170-459 x2
CBI-9177
CBI-9350
CAI-2474
N.S
CSI-5780
CFI-3332
CBI-6599
N.S
XA4-9170-459 x2
CAI-9007
XA4-9170-359 x3
(See Pg. 16)
(See Pg. 15)
CGI-3715
CAI-9411
XA4-9170-507 x2
XA4-9200-457 x2
CGI-3726
CBI-9338
XA4-9170-507
XA4-9170-409 x3

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-2474-000	A	1	CAP, PC TERMINAL
	CA1-6485-000	E	1	INSULATOR
	CA1-9007-000	D	1	RING, PC RETAINER
	CA1-9121-000	D	1	LEVER, LATCH
	CA1-9122-000	E	1	BUTTON, LATCH
	CA1-9128-000	D	1	SPACER
	CA1-9411-000	F	1	SCREW, CROSS-RECESS, PH
	CB1-2685-030	E	1	SPOOL
	CB1-6599-000	E	1	SHIELD, LIGHT
*	CB1-8590-000	E	1	SCREW
*	CB1-9177-000	D	1	COVER, LATCH
*	CB1-9248-000	E	1	CONTACT, BACK COVER SWITCH GND
*	CB1-9249-000	E	1	CONTACT, BACK COVER SWITCH
*	CB1-9316-000	E	1	BASE, FILM
*	CB1-9338-000	E	1	BASE, MD CONNECTOR
*	CB1-9350-000	E	1	HOOK, LATCH
*	CB1-9351-000	E	1	LEVER, LATCH LOCK
*	CB1-9352-000	E	1	HOLDER, LATCH SWITCH
*	CB1-9364-000	E	1	PIN, LATCH SWITCH
*	CB1-9376-000	E	1	INSULATOR
	CF1-3332-000	C	1	TERMINAL, PC
*	CG1-3715-000	E	1	FILM ADVANCE UNIT
*	CG1-3723-000	E	1	FILM LOADING SENSOR ASS'Y
*	CG1-3726-000	D	1	DX UNIT
	CS1-5690-000	D	1	SPRING, COIL
	CS1-5780-000	D	1	SPRING, COIL
*	CS2-6488-000	E	1	SPRING, LATCH LOCK
*	CY3-1234-000	D	1	BODY UNIT
	X99-0481-000	F	1	SCREW, CROSS-RECESS, PH
	XA4-9170-359	F	3	SCREW, CROSS-RECESS, PH
	XA4-9170-409	F	3	SCREW, CROSS-RECESS, PH
	XA4-9170-459	F	7	SCREW, CROSS-RECESS, PH
	XA4-9170-507	F	3	SCREW, CROSS-RECESS, PH
	XA4-9200-457	F	2	SCREW, CROSS-RECESS, PH

CANON EOS-IV



① CAI-5077-000(XXX)
② CAI-9078-000(XXX)
③ CAI-9079-000(XXX) *NEW

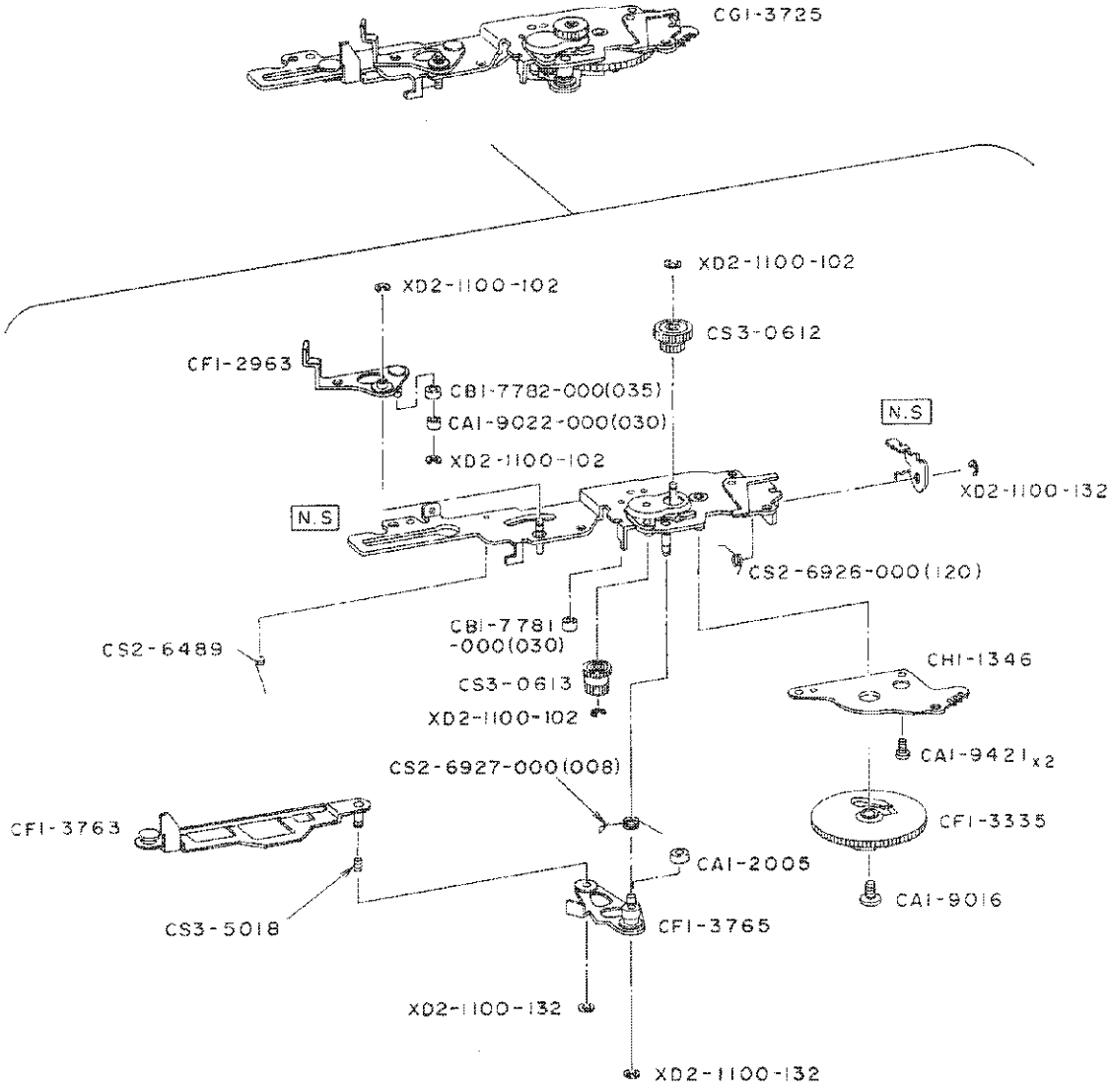
A	SIZE	①	②	③
0.03 mm	(003)	○	○	—
0.05 mm	(005)	○	○	○
0.10 mm	(010)	○	○	○
0.15 mm	(015)	○	*○	*○
0.20 mm	(020)	○	○	○
0.25 mm	(025)	○	*○	*○
0.30 mm	(030)	○	○	○
0.35 mm	(035)	○	*○	*○
0.40 mm	(040)	○	○	○
0.45 mm	(045)	*○	*○	*○
0.50 mm	(050)	*○	*○	*○
0.55 mm	(055)	—	*○	*○
0.60 mm	(060)	○	○	○

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-5077-000 (xxx)	E	2	WASHER, FINDER FOCUSING
	CA1-7777-000	C	1	MOUNT, BODY
	CA1-9078-000 (xxx)	E	1	SHIM, FINDER FOCUSING
	CA1-9079-000 (xxx)	E	2	PLATE, PARALLAX ADJUSTING
	CA1-9245-000	E	1	LEVER, SENSOR
	CB1-4228-000 (030)	E	1	STOPPER, RUBBER
	CB1-4236-000	D	1	PLATE, LIGHT SHIELD
*	CB1-8578-000	E	1	PLATE, STRAP L GND
*	CB1-9119-000 (024)	E	1	COLLAR
*	CB1-9127-000	D	1	STOPPER, MIRROR
*	CB1-9262-000	E	1	SHIELD, LIGHT
*	CB1-9285-000	E	4	SCREW
*	CB1-9308-000	E	1	CUSHION, MIRROR 1
*	CB1-9309-000	E	1	CUSHION, MIRROR 2
*	CB1-9318-000	E	1	PLATE, WING
*	CB1-9345-000	E	3	SCREW
*	CB1-9799-000	E	2	SCREW
	CF1-2987-000	D	1	SWITCH, LENS
*	CF1-3063-000	E	1	LOCK PIN UNIT
*	CG1-3708-000	E	1	MOUNT CONTACT ASS'Y
*	CG1-3710-000	C	1	FRONT PANEL UNIT
*	CG1-3714-000	D	1	TTL UNIT
*	CG1-3730-000	E	1	PENTAPRISM UNIT
	CS2-5020-000	E	1	SPRING, COIL
	CS2-7205-000	D	1	SPRING, MOUNT
*	CS3-5014-000	E	1	SPRING, QR
	CS3-6036-000	E	1	SPRING, MIRROR
	CY1-1280-000	C	1	MOUNT, BODY (0.1mm under)
	X99-0635-000	F	4	SCREW, CROSS-RECESS, PH
	XA1-3140-189	F	2	SCREW, CROSS-RECESS, FCH
	XA1-3170-307	F	1	SCREW, CROSS-RECESS, PH
	XA1-7170-359	F	4	SCREW, CROSS-RECESS, PH
*	XA1-7200-357	F	1	SCREW, CROSS-RECESS, PH
	XD1-1102-120	F	N	WASHER (0.05mm)
	XD1-1102-121	F	N	WASHER (0.1mm)
	XD1-1102-122	F	N	WASHER (0.2mm)

CANON EOS-IV


CG1-3725
XD2-1100-102
XD2-1100-102
CS3-0612
CF1-2963
CB1-7782-000(035)
CA1-9022-000(030)
XD2-1100-102
N.S
N.S
XD2-1100-132
CS2-6926-000(120)
CS2-6489
CB1-7781-000(030)
CS3-0613
XD2-1100-102
CH1-1346
CA1-9421 x2
CS2-6927-000(008)
CF1-3763
CF1-3335
CA1-2005
CA1-9016
CS3-5018
CF1-3765
XD2-1100-132
XD2-1100-132

2.2 New Accessories

The following system accessories were developed at the same time as the EOS-1V.

(1) EOS Link Software ES-E1

EOS Link Software ES-E1 consists of driver software and a cable which connects the EOS-1V's remote control/Data transfer terminal to the personal computer's USB port. It has the following functions:

q Transfer, viewing, and editing of the shooting data.

w EOS-1V control

- Personal Functions (Fine-tune settings of EOS-1V functions such as limiting the shooting modes and changing the metering time.)

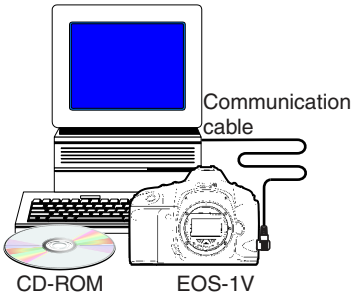


Fig. 1-15 EOS Link Software ES-E1

(2) MACRO RING LITE MR-14EX

Macro Speedlite (Guide No. 14) with E-TTL autoflash control and two curved flash tubes. A flash ratio can be set between the left and right flash tubes. FEB, FEL, wireless multi-Speedlite flash, and other flash exposure control features found on the 550EX are possible. It can also use external power packs, including the existing Speedlite power packs.

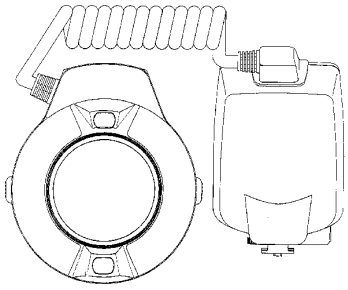


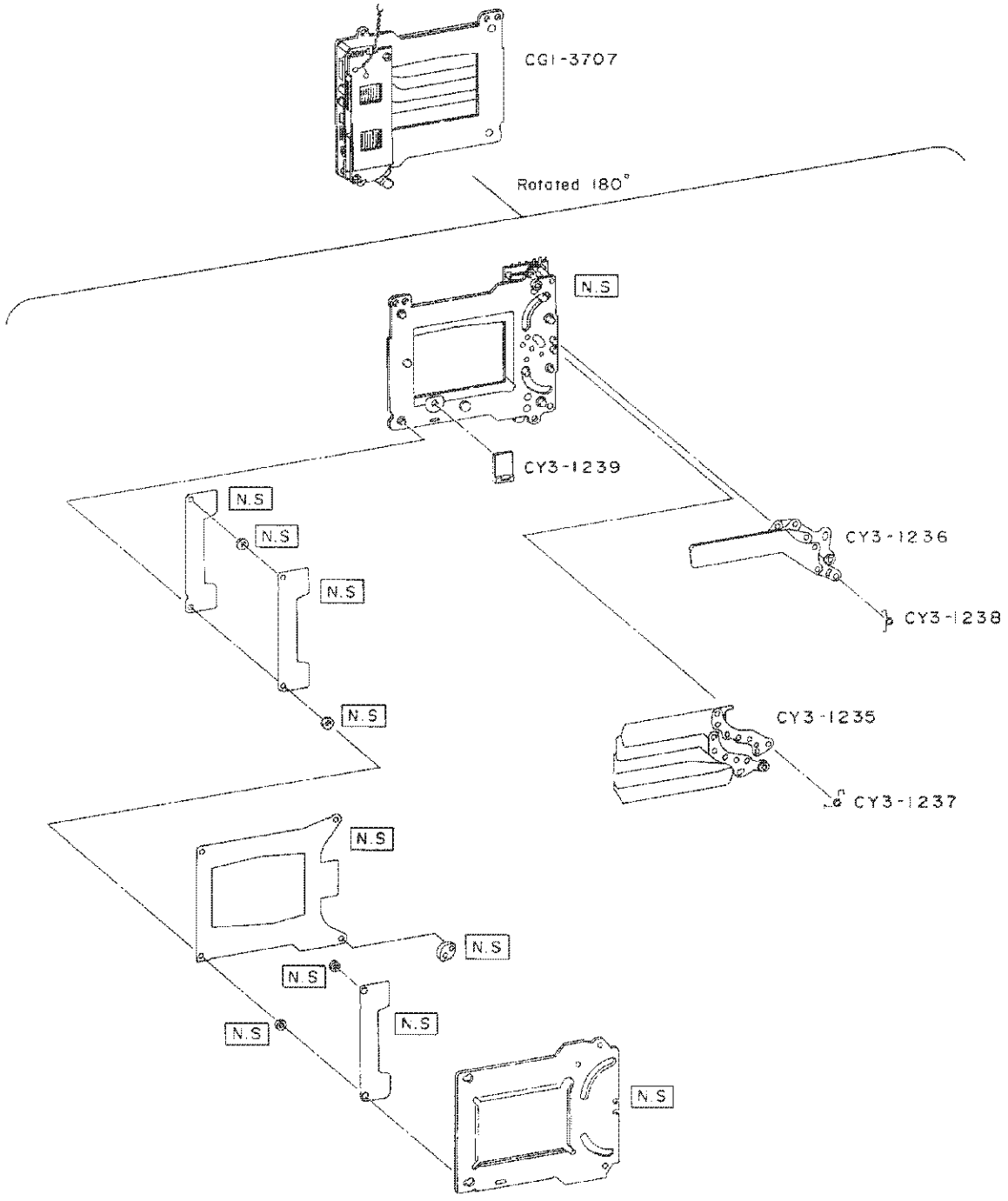
Fig. 1-16 MACRO RING LITE MR-14EX

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-2005-000	E	1	BALL BEARING, NMB L-520
	CA1-9016-000	F	1	SCREW, CROSS-RECESS, PH
	CA1-9022-000 (030)	E	1	COLLAR, MC
	CA1-9421-000	F	2	SCREW, CROSS-RECESS, PH
*	CB1-7781-000 (030)	D	1	STOPPER, CHARGE RUBBER
	CB1-7782-000 (035)	E	1	STOPPER, CHARGE RUBBER
*	CF1-2963-000	E	1	MC LEVER UNIT
	CF1-3335-000	E	1	GEAR UNIT, CAM
*	CF1-3763-000	E	1	SHUTTER CHARGE LEVER UNIT
*	CF1-3765-000	E	1	CAM FOLLOWER UNIT
*	CG1-3725-000	E	1	CHARGE UNIT
	CH1-1346-000	E	1	PCB, CHARGE PHASE
*	CS2-6489-000	E	1	SPRING, MC
	CS2-6926-000 (120)	E	1	SPRING, RELEASE
	CS2-6927-000 (008)	E	1	SPRING
*	CS3-0612-000	E	1	GEAR, CHARGE 1
*	CS3-0613-000	E	1	GEAR, CHARGE 2
*	CS3-5018-000	E	1	SPRING, CHARGE F
	XD2-1100-102	F	4	E RING
	XD2-1100-132	F	3	WASHER, RETAINING 1.3MM

CANON EOS-IV

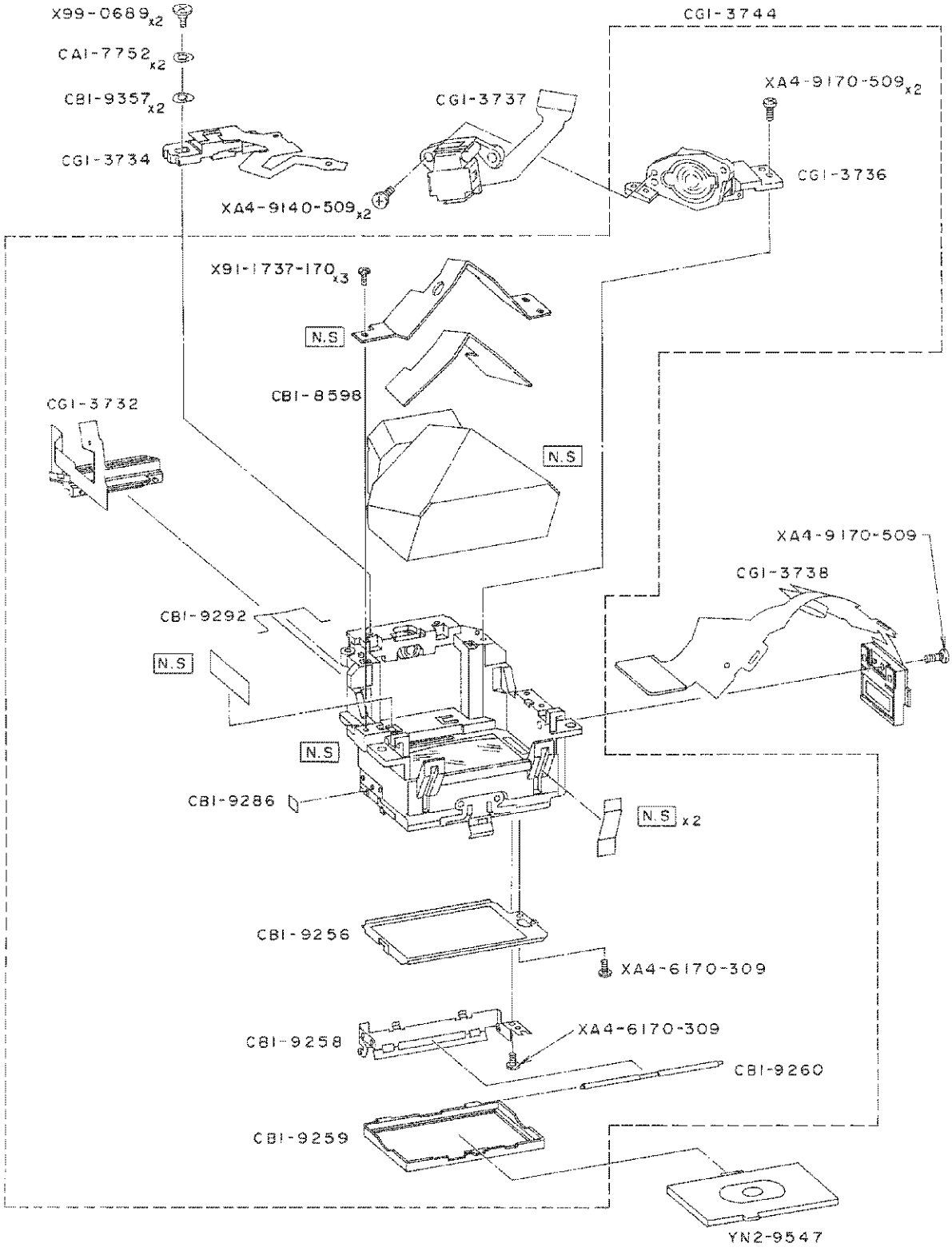

CG1-3707
Rotated 180°
N.S
CY3-1239
CY3-1236
CY3-1238
CY3-1235
CY3-1237

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
*	CG1-3707-000	C	1	SHUTTER UNIT
*	CY3-1235-000	E	1	SHUTTER 1ST CURTAIN ASS'Y
*	CY3-1236-000	E	1	SHUTTER 2ND CURTAIN ASS'Y
*	CY3-1237-000	E	1	SPRING
*	CY3-1238-000	E	1	SPRING
*	CY3-1239-000	E	1	STOPPER, SHUTTER CURTAIN

CANON EOS-IV

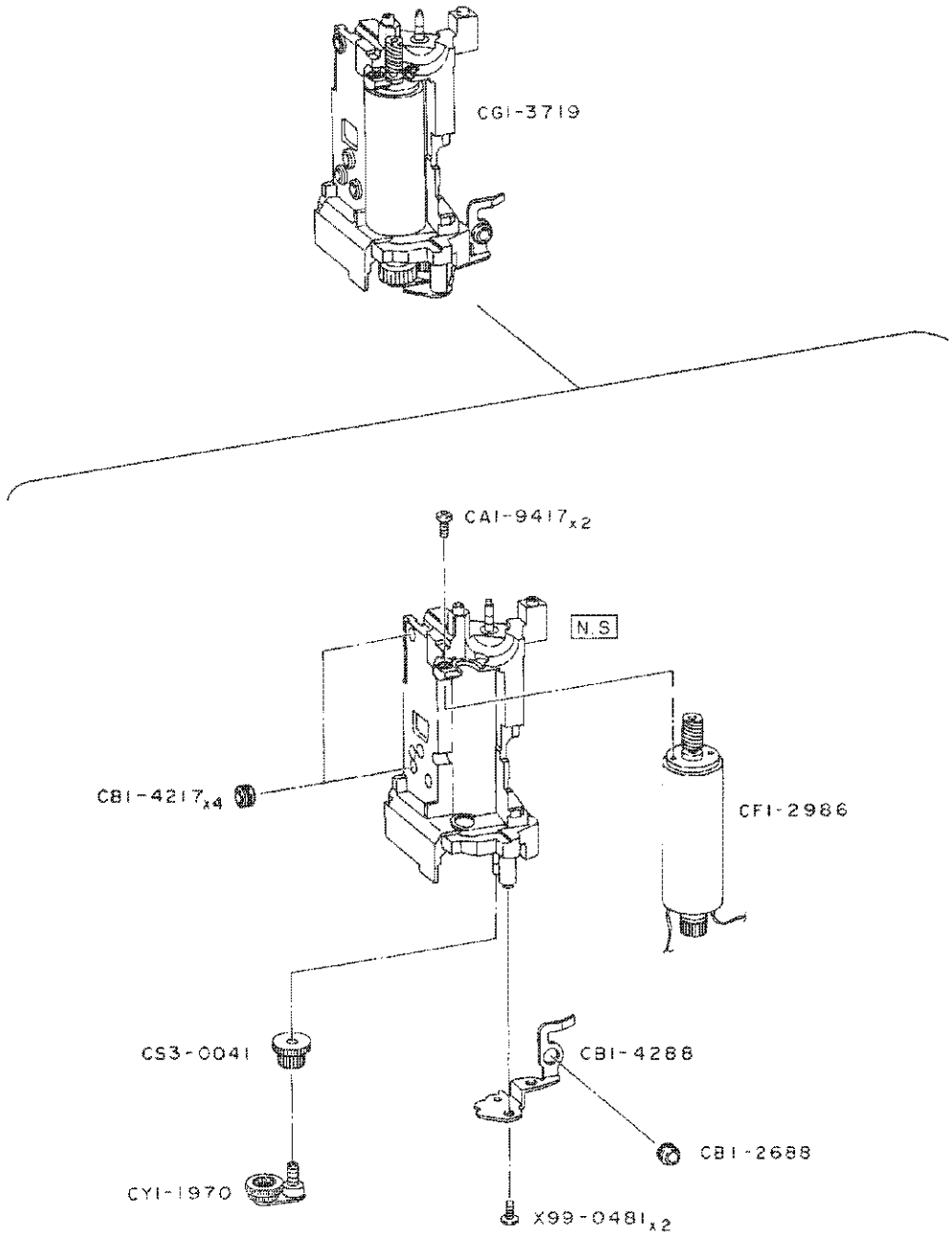

X99-0689 x2
CAI-7752 x2
CBI-9357 x2
CGI-3734
XA4-9140-509 x2
CGI-3737
CGI-3744
XA4-9170-509 x2
CGI-3736
X91-1737-170 x3
N.S
CBI-8598
CGI-3732
N.S
XA4-9170-509
CGI-3738
CBI-9292
N.S
N.S
CBI-9286
N.S x2
CBI-9256
XA4-6170-309
CBI-9258
XA4-6170-309
CBI-9260
CBI-9259
YN2-9547

PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-7752-000	E	2	WASHER, WAVE
*	CB1-8598-000	D	1	RUBBER, PENTA HOLDER
*	CB1-9256-000	D	1	MASK, FIELD
*	CB1-9258-000	E	1	PLATE, FS HINGE
*	CB1-9259-000	E	1	HOLDER, FOCUSING SCREEN
*	CB1-9260-000	E	1	SHAFT, FS HOLDER
*	CB1-9286-000	C	1	TAPE, PENTA HOLD
*	CB1-9292-000	E	1	SPRING, HLC HOLDER
*	CB1-9357-000	E	2	WASHER, SPC
*	CG1-3732-000	D	1	LCD UNIT (HORIZONTAL)
*	CG1-3734-000	D	1	SPC UNIT
*	CG1-3736-000	D	1	SI SUPPORT UNIT
*	CG1-3737-000	D	1	SLC UNIT
*	CG1-3738-000	D	1	LCD UNIT (VERTICAL)
*	CG1-3744-000	D	1	PENTAPRISM HOLDER UNIT
	X91-1737-170	F	3	SCREW, CROSS-RECESS, PH
	X99-0689-000	F	2	SCREW, CROSS-RECESS, PH
	XA4-6170-309	F	2	SCREW, CROSS-RECESS, PH
	XA4-9140-509	F	2	SCREW, CROSS-RECESS, PH
	XA4-9170-509	F	3	SCREW, CROSS-RECESS, PH
*	YN2-9547-000	C	1	SCREEN, FOCUSING

CANON EOS-IV


CGI-3719
CAI-9417x2
N.S
CBI-4217x4
CFI-2986
CS3-0041
CBI-4288
CBI-2688
CYI-1970
X99-0481x2

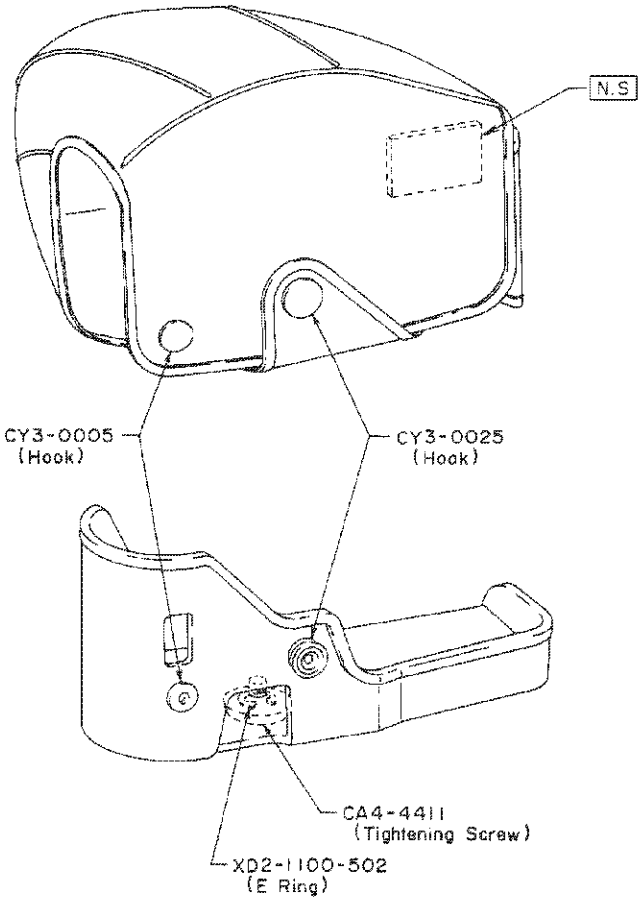
PARTS LIST

REF.NO. C12-8401

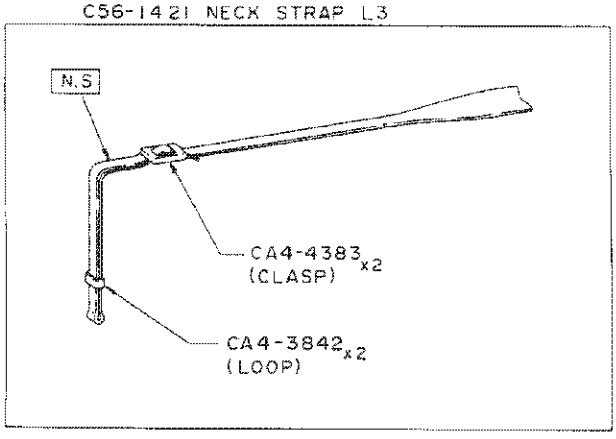
NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
	CA1-9417-000	F	2	SCREW
	CB1-2688-000	E	1	VIBRATION MOUNT
	CB1-4217-000	D	4	MOUNT, VIBRATION
	CB1-4288-000	E	1	PLATE, M2 GEAR
	CF1-2986-000	E	1	MOTOR (2)
*	CG1-3719-000	D	1	MOTOR 2 UNIT
	CS3-0041-000	E	1	GEAR, MOTOR 2 SUN
	CY1-1970-000	D	1	GEAR UNIT, MOTOR 2 PLANETARY
	X99-0481-000	F	2	SCREW, CROSS-RECESS, PH

REF. NO. C46-2021(L)
C46-2022(LL)
C56-1421

CANON SEMI HARD CASE EH11-L
EH11-LL



C56-1421 NECK STRAP L3



S E M I H A R D C A S E E H 1 1 - L / L L

REF.NO. C46-2021 (L), C46-2022 (LL)

NEW	PARTS NO.	CLASS	QTY	D E S C R I P T I O N
	CA4-4411-000	D	1	TIGHTENING SCREW
	CY3-0005-000	D	1	HOOK
	CY3-0025-000	D	1	HOOK
	XD2-1100-502	F	1	RETAINING RING (E-TYPE)

N E C K S T R A P L 3

REF.NO. C56-1421

NEW	PARTS NO.	CLASS	QTY	D E S C R I P T I O N
	C56-1421-001	D	1	NECK STRAP L3
	CA4-3842-000	D	2	LOOP
	CA4-4383-000	D	2	CLASP

E L E C T R I C P A R T S L I S T

REF.NO. C12-8401

NEW	SYMBOL	PARTS NO.	D E S C R I P T I O N	REMARK
	MTDR2	WA4-6332-000	MOTOR DRIVER 2	MPC17A10SVM
	T-MOS	WA2-5620-000	MOS-FET	SFX-50
		Y11-3706-000	LEAD	ORANGE
		Y11-3902-000	LEAD	BLACK
		Y11-3903-000	LEAD	RED
		Y11-3907-000	LEAD	YELLOW
		Y11-3914-000	LEAD	GLAY
		Y11-5002-000	LEAD	BLACK
*		Y11-5004-000	LEAD	PINK
		Y11-5007-000	LEAD	YELLOW
		Y11-5011-000	LEAD	BLUE

3. SPECIFICATIONS

1. Type

1-1	Type:	35mm AF/AE single-lens reflex camera with focal-plane shutter (vertical travel) and built-in motor drive
1-2	Picture size:	24 mm × 36 mm
1-3	Compatible lenses:	Canon EF lenses
1-4	Standard lens:	Canon EF 50mm f/1.4
1-5	Lens mount:	Canon EF mount

2. AF

2-1 Type: TTL-AREA-SIR** with a CMOS sensor

2-2 Focusing points: 45-point Area AF, 8 mm (vertical) × 15 mm (horizontal)

* The 7 focusing points at the center are cross-type sensors which are also vertical-line sensitive.

2-3 Focusing modes: The mode can be switched between the following three:

(1) One-Shot AF

Autofocus locks when focus is achieved.

* AF-priority: The shutter can be released only when focus is achieved.
* During evaluative metering, AE lock is set at the same time as AF lock. (In the other metering modes, exposure metering continues in real-time until the shutter is released.)

(2) AI Servo AF

Constantly tracks subject movement up to the start of exposure.

* While the shutter button is pressed halfway, the shutter button can be depressed fully at anytime to release the shutter regardless of focus. (Shutter release-priority)
* When the shutter button is pressed completely without pressing it halfway first, the shutter is released after AF operation is executed once.
* During continuous shooting of a moving subject, the lens is driven (taking 0 to 250 ms) from the second successive frame to track the subject, then the shutter is released.
* No in-focus indicator. The indicator only blinks (8 Hz) if AF fails.

(3) Manual focusing

Switching from AF to manual focusing

* With mechanical manual-focus lenses, the focus mode is switched to manual with the lens.
* With electronic manual-focus lenses, the focus mode can be switched to manual as above or automatically with CF-7-0).

When focus is achieved, the in-focus indicator and superimposed focusing point light up. If focus fails, neither is displayed.

INDEX OF PARTS LIST

REF.NO. C12-8401

NEW	PARTS NO.	PAGE	NEW	PARTS NO.	PAGE
	CA1-2005-000	15		CA1-9403-000	9
	CA1-2474-000	13		CA1-9404-000	6
	CA1-4257-000	9		CA1-9405-000	1
	CA1-5074-000	8		CA1-9407-000	7
	CA1-5077-000 (xxx)	14		CA1-9410-000	6
	CA1-6485-000	13		CA1-9411-000	6,13
	CA1-6504-040	2		CA1-9415-000	7
	CA1-6522-000	8		CA1-9417-000	18
	CA1-6523-060	8	*	CA1-9418-000	3
	CA1-6525-000	8		CA1-9421-000	15
	CA1-7531-000	11		CA1-9422-000	2
	CA1-7606-000	7		CA1-9427-000	1,6,9
	CA1-7618-000	9		CA1-9810-000	12
	CA1-7619-000	9		CB1-0183-000	8
	CA1-7752-000	17		CB1-1927-000	8
	CA1-7777-000	14		CB1-1928-000	8
	CA1-9002-000	11		CB1-2678-000	8
	CA1-9007-000	13		CB1-2685-030	13
	CA1-9016-000	15		CB1-2688-000	11,18
	CA1-9022-000 (030)	15		CB1-2689-000	11
	CA1-9078-000 (xxx)	14		CB1-2748-000	8
	CA1-9079-000 (xxx)	14		CB1-4217-000	18
	CA1-9080-000	1		CB1-4228-000 (030)	14
	CA1-9085-000	5		CB1-4236-000	14
	CA1-9094-000	6		CB1-4255-000	1
	CA1-9118-000	7		CB1-4288-000	18
	CA1-9119-000	7	*	CB1-4289-000	12
	CA1-9121-000	13		CB1-6599-000	13
	CA1-9122-000	13		CB1-6727-000	9
	CA1-9126-000	7		CB1-6734-000	8
	CA1-9128-000	13		CB1-6735-000	8
	CA1-9138-000	11		CB1-6739-000	6
	CA1-9168-000	2		CB1-6745-000	8
	CA1-9176-000	2		CB1-6761-000	2
	CA1-9184-000	4		CB1-6762-000	2
	CA1-9185-000	4	*	CB1-7702-000	8
	CA1-9245-000	14	*	CB1-7706-000	6
	CA1-9328-000	2	*	CB1-7707-000	6
	CA1-9401-000	1	*	CB1-7708-000	8
	CA1-9402-000	1	*	CB1-7709-000	8

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	CB1-7756-000	3	*	CB1-9147-000	1
	CB1-7770-000 (025)	9	*	CB1-9148-000	1
	CB1-7772-000	1	*	CB1-9149-000	7
	CB1-7775-000	8	*	CB1-9152-000	7
*	CB1-7781-000 (030)	15	*	CB1-9153-000	7
	CB1-7782-000 (035)	15	*	CB1-9154-000	7
	CB1-7789-000	8	*	CB1-9155-000	7
*	CB1-7974-000	4	*	CB1-9158-000	8
*	CB1-7975-000	4	*	CB1-9159-000	8
*	CB1-7976-000	9	*	CB1-9160-000	8
*	CB1-7977-000	6	*	CB1-9161-000	8
*	CB1-7978-000	12	*	CB1-9162-000	8
*	CB1-7979-000	1	*	CB1-9163-000	8
*	CB1-7980-000	1	*	CB1-9164-000	8
*	CB1-7981-000	1	*	CB1-9166-000	8
*	CB1-7982-000	1	*	CB1-9167-000	1
*	CB1-7983-000	1,11	*	CB1-9168-000	1
*	CB1-8576-000	8	*	CB1-9169-000	11
*	CB1-8577-000	8	*	CB1-9170-000	4
*	CB1-8578-000	6,14	*	CB1-9174-000	4
*	CB1-8579-000	8	*	CB1-9177-000	13
*	CB1-8580-000	1	*	CB1-9181-000	5
*	CB1-8581-000	1	*	CB1-9182-000	3
*	CB1-8582-000	6	*	CB1-9183-000	3
*	CB1-8583-000	12	*	CB1-9184-000	2
*	CB1-8584-000	6	*	CB1-9185-000	9
*	CB1-8585-000	1	*	CB1-9186-000	2
*	CB1-8586-000	4	*	CB1-9187-000	2
*	CB1-8587-000	8	*	CB1-9188-000	6
*	CB1-8590-000	13	*	CB1-9189-000	6
*	CB1-8592-000	6	*	CB1-9190-000	6
*	CB1-8593-000	2	*	CB1-9191-000	1
*	CB1-8595-000	1,4	*	CB1-9194-000	2
*	CB1-8596-000	8	*	CB1-9195-000	1
*	CB1-8598-000	17	*	CB1-9196-000	1
*	CB1-8599-000	12	*	CB1-9198-000	2
*	CB1-9119-000 (024)	14	*	CB1-9199-000 (020)	2
*	CB1-9127-000	14	*	CB1-9201-000	2
*	CB1-9144-000	6	*	CB1-9202-000	2
*	CB1-9145-000	3	*	CB1-9203-000	2

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NEW	PARTS NO.	PAGE	NEW	PARTS NO.	PAGE
*	CB1-9204-000	2	*	CB1-9279-000	12
*	CB1-9206-000	2	*	CB1-9280-000	12
*	CB1-9207-000	2	*	CB1-9282-000	1
*	CB1-9208-000	2	*	CB1-9283-000	8
*	CB1-9209-000	2	*	CB1-9285-000	12,14
*	CB1-9210-000	2	*	CB1-9286-000	17
*	CB1-9211-000	2	*	CB1-9288-000	12
*	CB1-9213-000	2	*	CB1-9292-000	17
*	CB1-9214-000	2	*	CB1-9308-000	14
*	CB1-9216-000	1	*	CB1-9309-000	14
*	CB1-9217-000	1	*	CB1-9310-000	10
*	CB1-9218-000	3	*	CB1-9311-000	10
*	CB1-9219-000	3	*	CB1-9313-000	10
*	CB1-9220-000	3	*	CB1-9314-000	10
*	CB1-9221-000	3	*	CB1-9315-000	11
*	CB1-9222-000	8	*	CB1-9316-000	13
*	CB1-9223-000	1	*	CB1-9317-000	11
*	CB1-9225-000	2	*	CB1-9318-000	14
*	CB1-9226-000	6	*	CB1-9319-000	11
*	CB1-9227-000	12	*	CB1-9320-000	11
*	CB1-9228-000	12	*	CB1-9322-000	11
*	CB1-9229-000	12	*	CB1-9338-000	13
*	CB1-9233-000	6	*	CB1-9345-000	14
*	CB1-9235-000	5	*	CB1-9349-000	2
*	CB1-9236-000	5	*	CB1-9350-000	13
*	CB1-9237-000	5	*	CB1-9351-000	13
*	CB1-9239-000	9	*	CB1-9352-000	13
*	CB1-9240-000	6	*	CB1-9353-000	3
*	CB1-9247-000	9	*	CB1-9354-000	2
*	CB1-9248-000	13	*	CB1-9357-000	17
*	CB1-9249-000	13	*	CB1-9360-000	3
*	CB1-9256-000	17	*	CB1-9363-000	2
*	CB1-9258-000	17	*	CB1-9364-000	13
*	CB1-9259-000	17	*	CB1-9366-000	8
*	CB1-9260-000	17	*	CB1-9367-000	1,7
*	CB1-9262-000	14	*	CB1-9368-000	8
*	CB1-9264-000	8	*	CB1-9369-000	6
*	CB1-9274-000	12	*	CB1-9370-000	5
*	CB1-9275-000	12	*	CB1-9371-000	5
*	CB1-9276-000	12	*	CB1-9372-000	5,12

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*	CB1-9373-000	1	*	CG1-3730-000	14
*	CB1-9374-000	7	*	CG1-3731-000	11
*	CB1-9375-000	8	*	CG1-3732-000	17
*	CB1-9376-000	13	*	CG1-3734-000	17
*	CB1-9377-000	3	*	CG1-3735-000	11
*	CB1-9378-000	5	*	CG1-3736-000	17
*	CB1-9379-000	3	*	CG1-3737-000	17
*	CB1-9792-000	4	*	CG1-3738-000	17
*	CB1-9799-000	14	*	CG1-3740-000	11
*	CF1-2963-000	15	*	CG1-3743-000	7
	CF1-2986-000	18	*	CG1-3744-000	17
	CF1-2987-000	14	*	CG1-3745-000	6
*	CF1-3063-000	14	*	CG1-3748-000	9
	CF1-3332-000	13	*	CG1-3749-000	7
	CF1-3335-000	15	*	CG1-3750-000	2
	CF1-3343-000	11	*	CG1-3751-000	10
*	CF1-3763-000	15	*	CG1-3752-000	10
*	CF1-3765-000	15	*	CG1-3754-000	2
*	CF1-3868-000	12	*	CG1-3755-000	3
*	CF1-3869-000	12	*	CG1-3756-000	8
*	CF1-3870-000	12	*	CG1-3758-000	8
*	CF1-3871-000	8	*	CG1-3759-000	5
*	CF1-3872-000	8	*	CG1-3760-000	4
*	CF1-3873-000	8		CH1-0903-000	5
*	CF1-3874-000	12		CH1-1346-000	15
*	CF1-3877-000	8		CH1-1469-000	8
	CG1-3044-000	11	*	CH1-1548-000	11
	CG1-3045-000	11	*	CH1-1551-000	5
	CG1-3046-000	11		CH2-5212-000	6
*	CG1-3707-000	16	*	CH2-5285-000	2
*	CG1-3708-000	14	*	CH2-5286-000	2
*	CG1-3710-000	14	*	CH2-5287-000	2
*	CG1-3714-000	14	*	CH2-5288-000	3
*	CG1-3715-000	13	*	CH2-5289-000	5
*	CG1-3719-000	18	*	CH2-6170-000	10
*	CG1-3720-000	3	*	CH4-1050-000	8
*	CG1-3723-000	13	*	CH5-0163-000	10
*	CG1-3725-000	15	*	CH5-0164-000	10
*	CG1-3726-000	13		CS1-5690-000	13
*	CG1-3728-000	9		CS1-5780-000	13

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*	CS2-3923-000	12
	CS2-5003-000 (xxx)	7
	CS2-5020-000	14
	CS2-5857-000 (020)	8
	CS2-5887-000 (020)	8
*	CS2-6481-000	12
*	CS2-6482-000	12
*	CS2-6488-000	13
*	CS2-6489-000	15
	CS2-6926-000 (120)	15
	CS2-6927-000 (008)	15
	CS2-6931-000	6
	CS2-6966-000	8
	CS2-7205-000	14
	CS3-0038-000	11
	CS3-0041-000	18
*	CS3-0612-000	15
*	CS3-0613-000	15
*	CS3-2047-000	12
*	CS3-5014-000	14
*	CS3-5018-000	15
*	CS3-5021-000	3
	CS3-6036-000	14
	CY1-1280-000	14
	CY1-1970-000	18
	CY3-1063-000	8
*	CY3-1234-000	13
*	CY3-1235-000	16
*	CY3-1236-000	16
*	CY3-1237-000	16
*	CY3-1238-000	16
*	CY3-1239-000	16
*	CY3-1240-000 (xxx)	2
	X91-1737-170	5,17
	X99-0467-000	8
	X99-0481-000	11,13,18
	X99-0573-000	8
	X99-0583-000	7
	X99-0630-000	7,8
	X99-0635-000	14
	X99-0689-000	17
	XA1-1170-257	9
	XA1-3140-189	14
	XA1-3170-307	14
	XA1-3170-457	2
	XA1-7170-257	9
	XA1-7170-307	10
	XA1-7170-359	14
*	XA1-7200-357	14
*	XA1-7200-959	11
	XA4-1200-507	11
	XA4-6170-309	17
	XA4-6170-659	11
*	XA4-8140-257	6
	XA4-8170-409	11
	XA4-8200-357	6
	XA4-9140-307	12
	XA4-9140-509	17
	XA4-9170-257	8
	XA4-9170-307	8,12
	XA4-9170-357	2,8,11
	XA4-9170-359	13
	XA4-9170-409	13
	XA4-9170-457	2,8,12
	XA4-9170-459	9,13
	XA4-9170-507	13
	XA4-9170-509	17
	XA4-9170-557	7,9,11
	XA4-9170-707	2
	XA4-9170-907	9
	XA4-9200-457	13
	XA4-9200-559	6
	XA4-9200-607	6
	XA4-9200-707	11
	XA4-9200-809	11
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	XD1-1102-121	14
	XD1-1102-122	14
	XD1-1103-616	8

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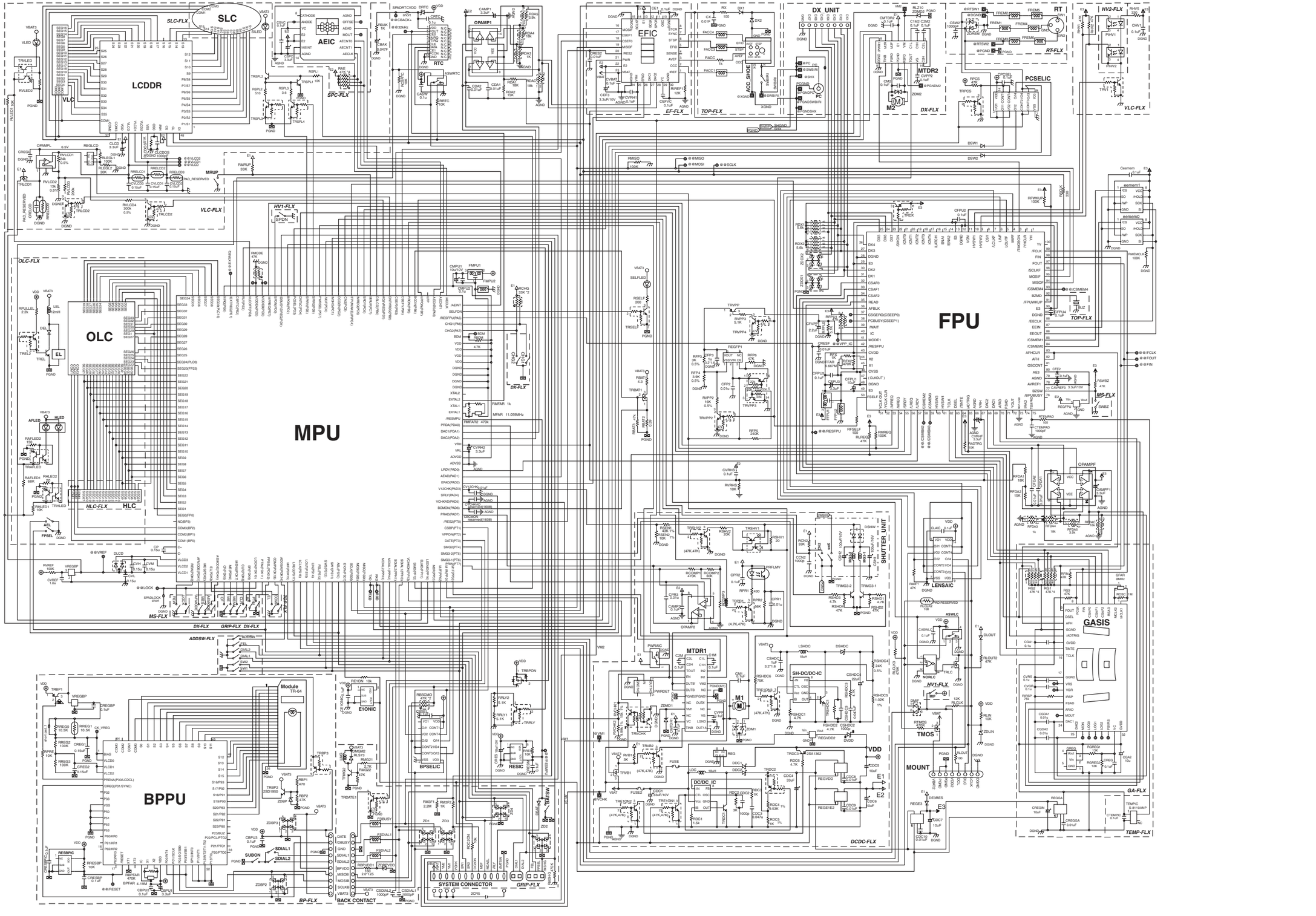
	XD2-1100-102	15			
	XD2-1100-132	2,15			
	XD2-1100-202	2			
	XG8-1100-561	5			
	XG8-1100-581	7,12			
	XG8-1100-591	8			
*	YN2-9547-000	17			

Part 6

Electrical Diagrams

1. SCHEMATIC DIAGRAM

REF. NO. C12-8401



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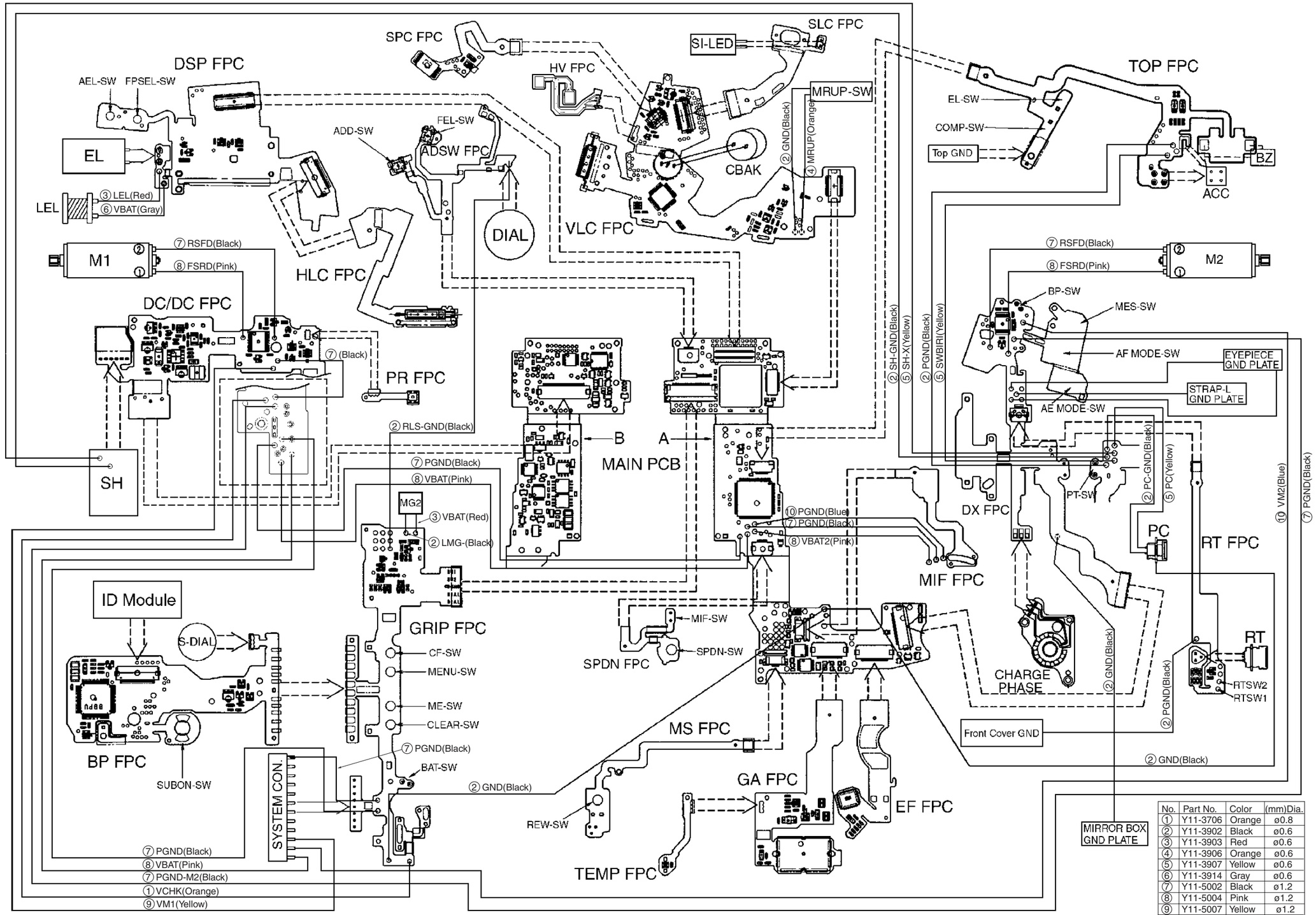
2. WIRING DIAGRAM

REF. NO. C12-8401



No.	Part No.	Color	(mm)Dia.
①	Y11-3706	Orange	ø0.8
②	Y11-3902	Black	ø0.6
③	Y11-3903	Red	ø0.6
④	Y11-3906	Orange	ø0.6
⑤	Y11-3907	Yellow	ø0.6
⑥	Y11-3914	Gray	ø0.6
⑦	Y11-5002	Black	ø1.2
⑧	Y11-5004	Pink	ø1.2
⑨	Y11-5007	Yellow	ø1.2
⑩	Y11-5011	Blue	ø1.2

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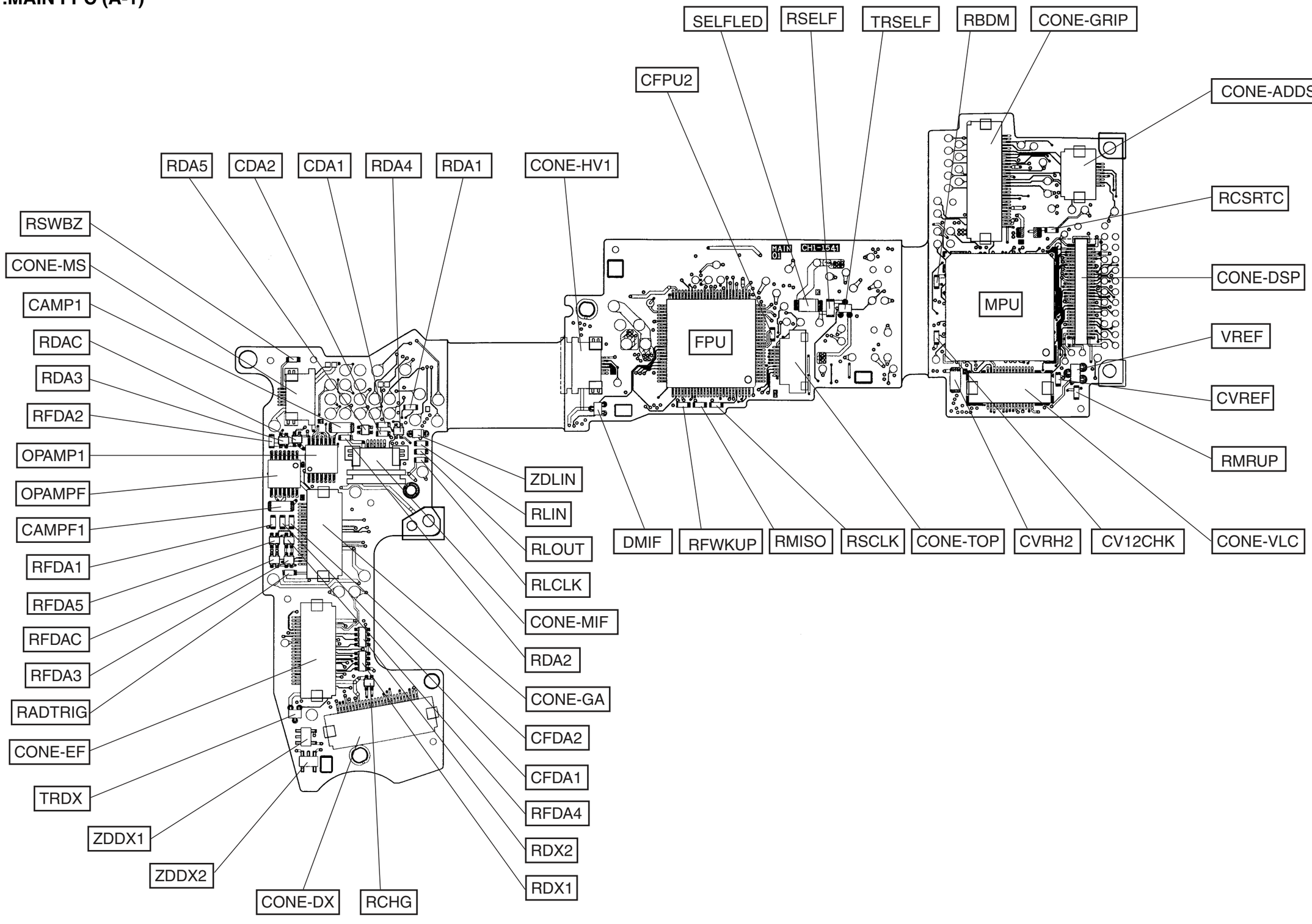
3.MAIN FPC
3-1.MAIN FPC (A-1)

REF. NO. C12-8401



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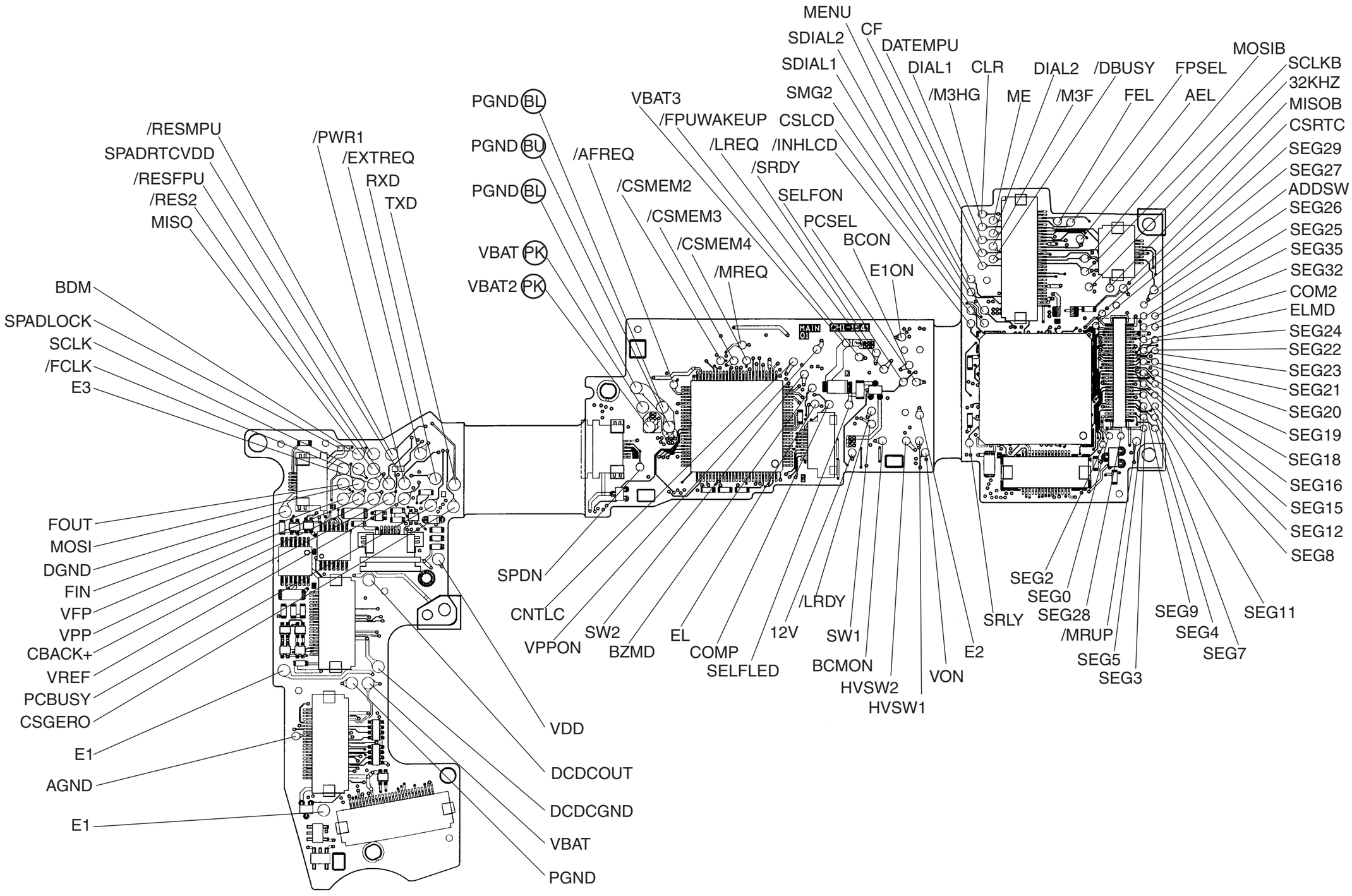
		During continuous shooting, electronic-ring manual focusing is enabled during film advance and disabled during exposure (but enabled with PB-E2 + NP-E2 attached).
2-4	Focusing point selection:	(1) Manual selection of focusing point Horizontal focusing point selection: Focusing point selector + Main Dial Vertical focusing point selection: Focusing point selector + Quick Control Dial * Focusing point selector pressed → Assist button + Main Dial * Focusing point selector + FE lock button pressed → Hold down the Focusing point selector and turn Main Dial (2) Automatic selection of focusing point * In the One-Shot AF mode: Based on the subject information obtained by the Area AF focusing points, the optimum focusing point is selected automatically. * In the AI Servo AF mode: The center focusing point is initially selected. If the subject moves to another focusing point, AI Servo AF will continue to track the subject. * If CF-11-2 is set, pressing the focusing point selector while the shutter button is pressed halfway or completely will select the focusing point automatically. (3) Center focusing point selection CF-13-3 * Focusing point selector press → Assist button ON
2-5	Active focusing point indicator:	The focusing point is superimposed in the viewfinder.
2-6	Focusing point registration and shifting (HP: Home position):	Focusing point registration: After selecting the focusing point, press the Assist button and FEL button (the center focusing point is the default setting) Shifting to registered focusing point: Press Assist button and focusing point selector. * 45-point and 2-point automatic selection also can be registered.
2-7	AF activation:	AF is activated by pressing the shutter button halfway.
2-8	AF operation speed:	Same as or faster than the EOS-3.
2-9	In-focus indicators:	Focusing point superimposed in viewfinder (cancelable with Custom Function), in-focus indicator (dot), and electronic beeper (which can be enabled or disabled with the main switch)
2-10	AF precision:	Same as the EOS-1N's
2-11	AF working range:	EV 0-18 (at ISO 100), according to Canon's testing conditions.



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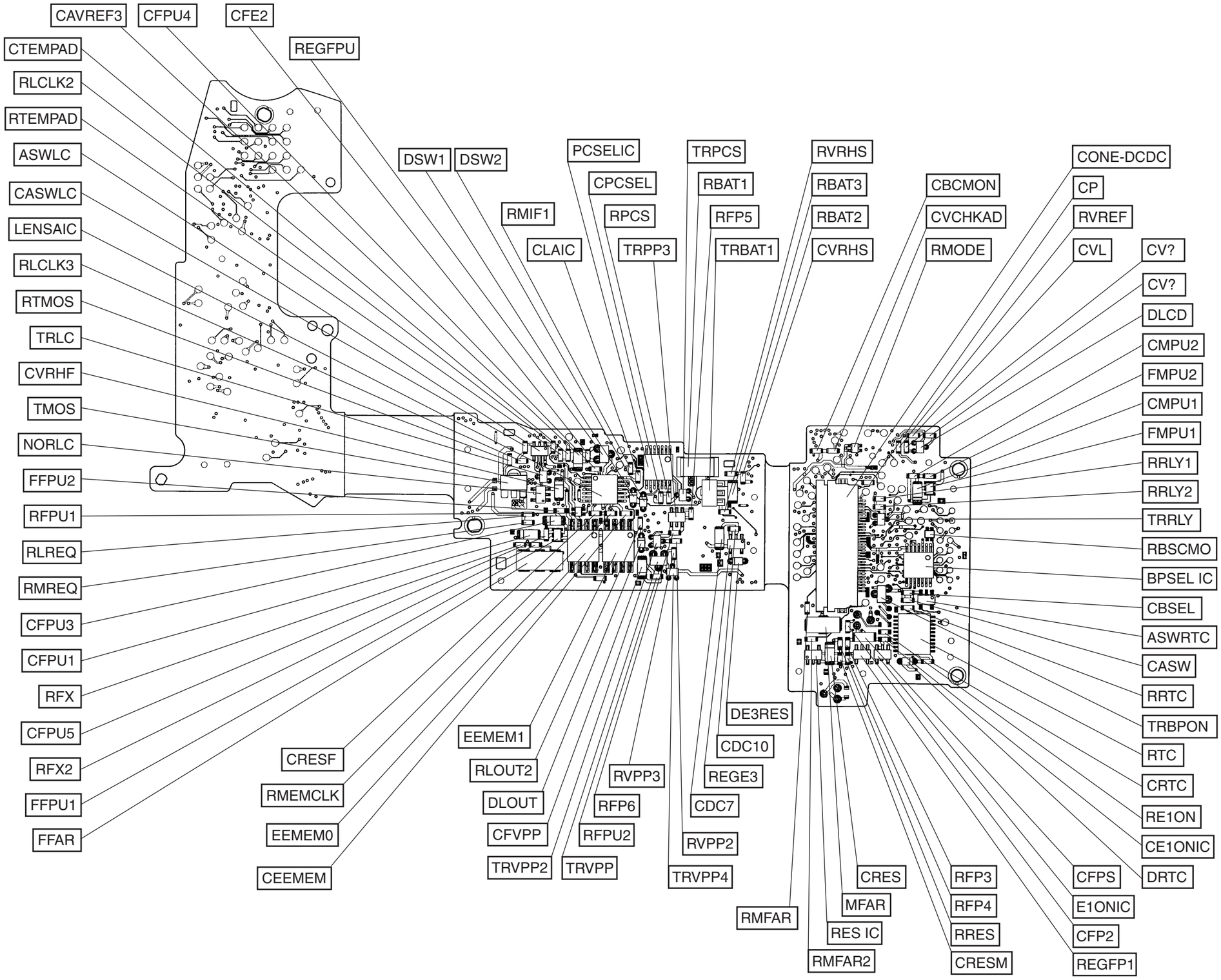

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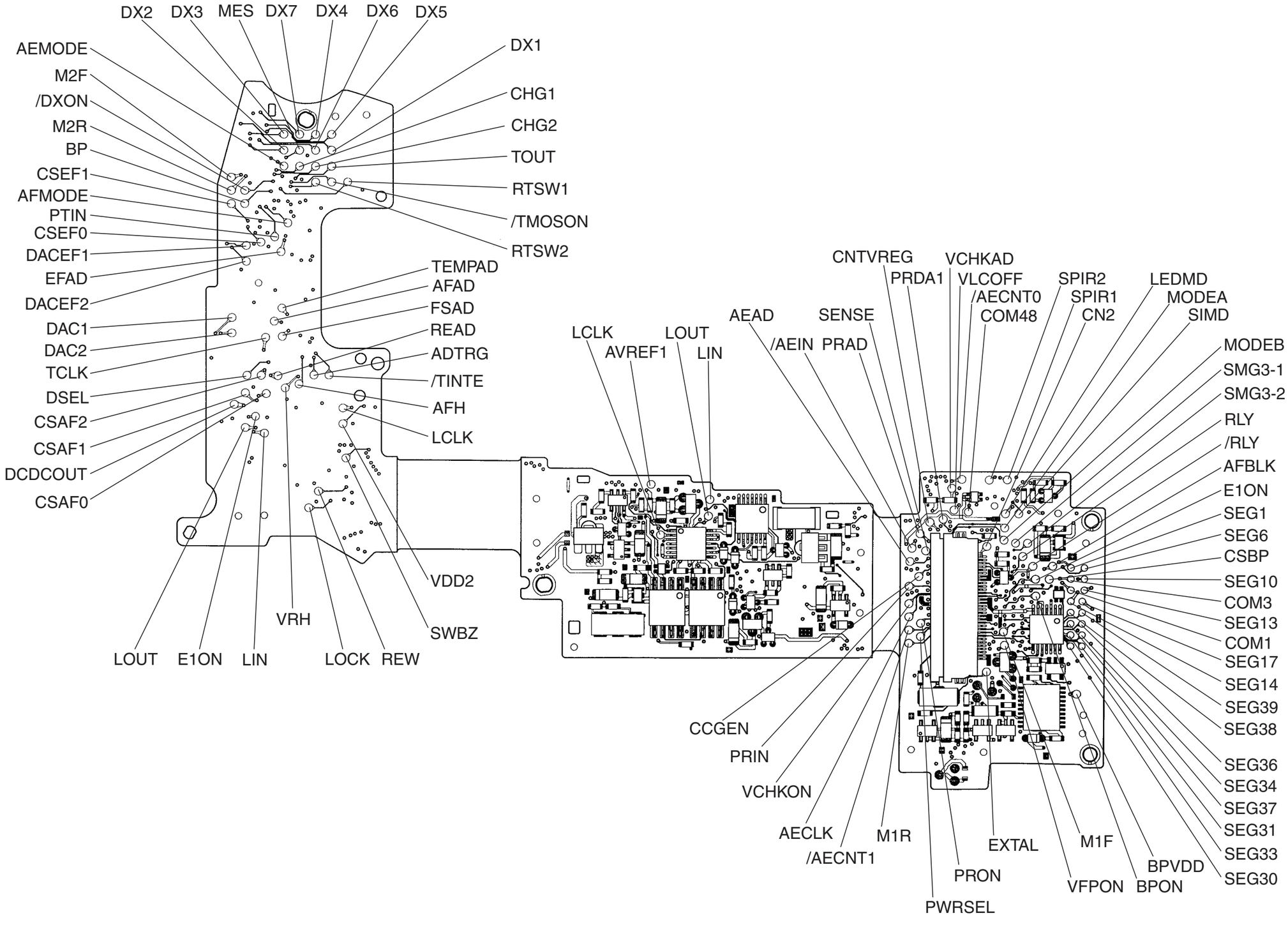

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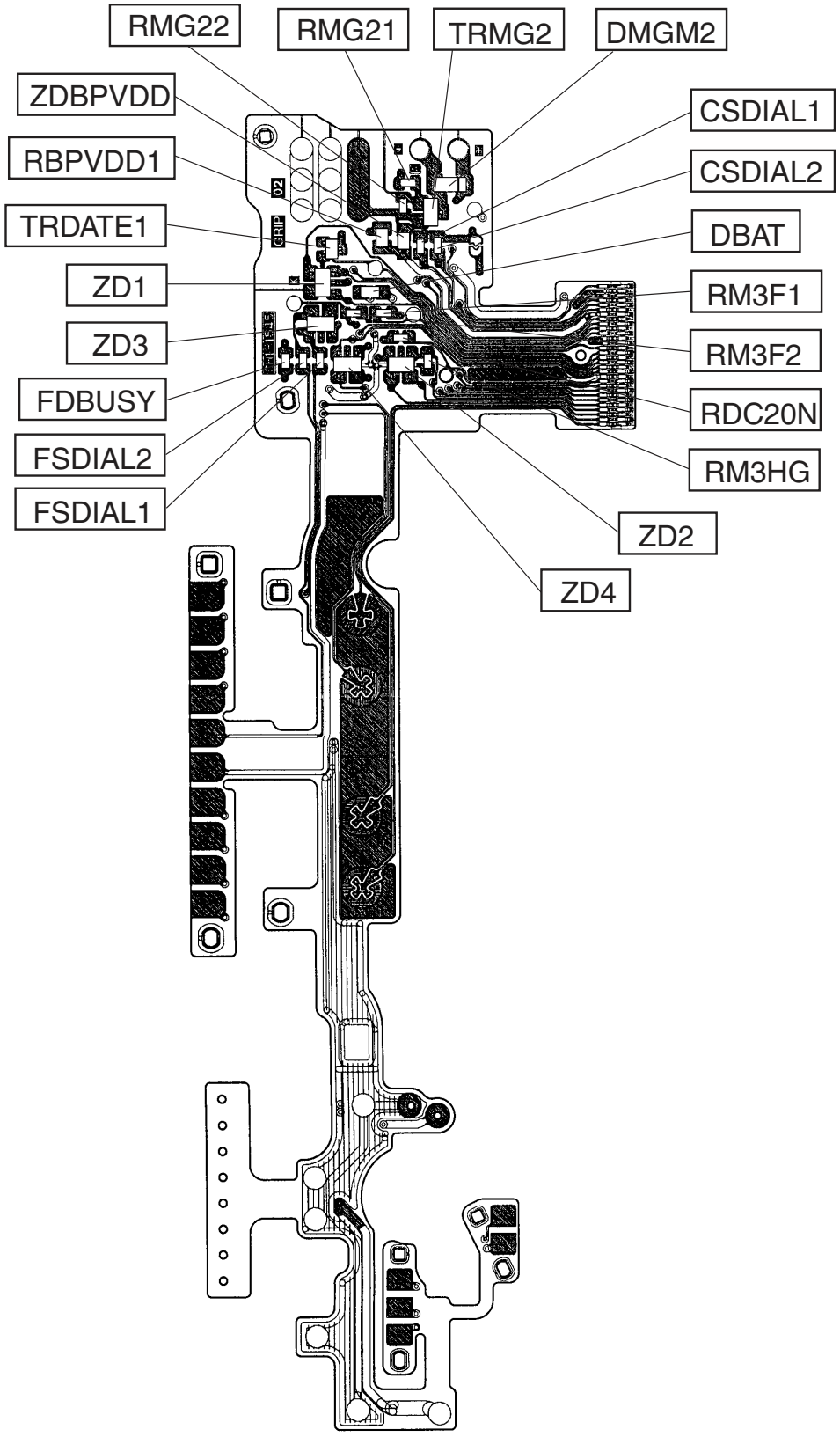
4.GRIP FPC
4-1.GRIP FPC (A-1)

REF. NO. C12-8401



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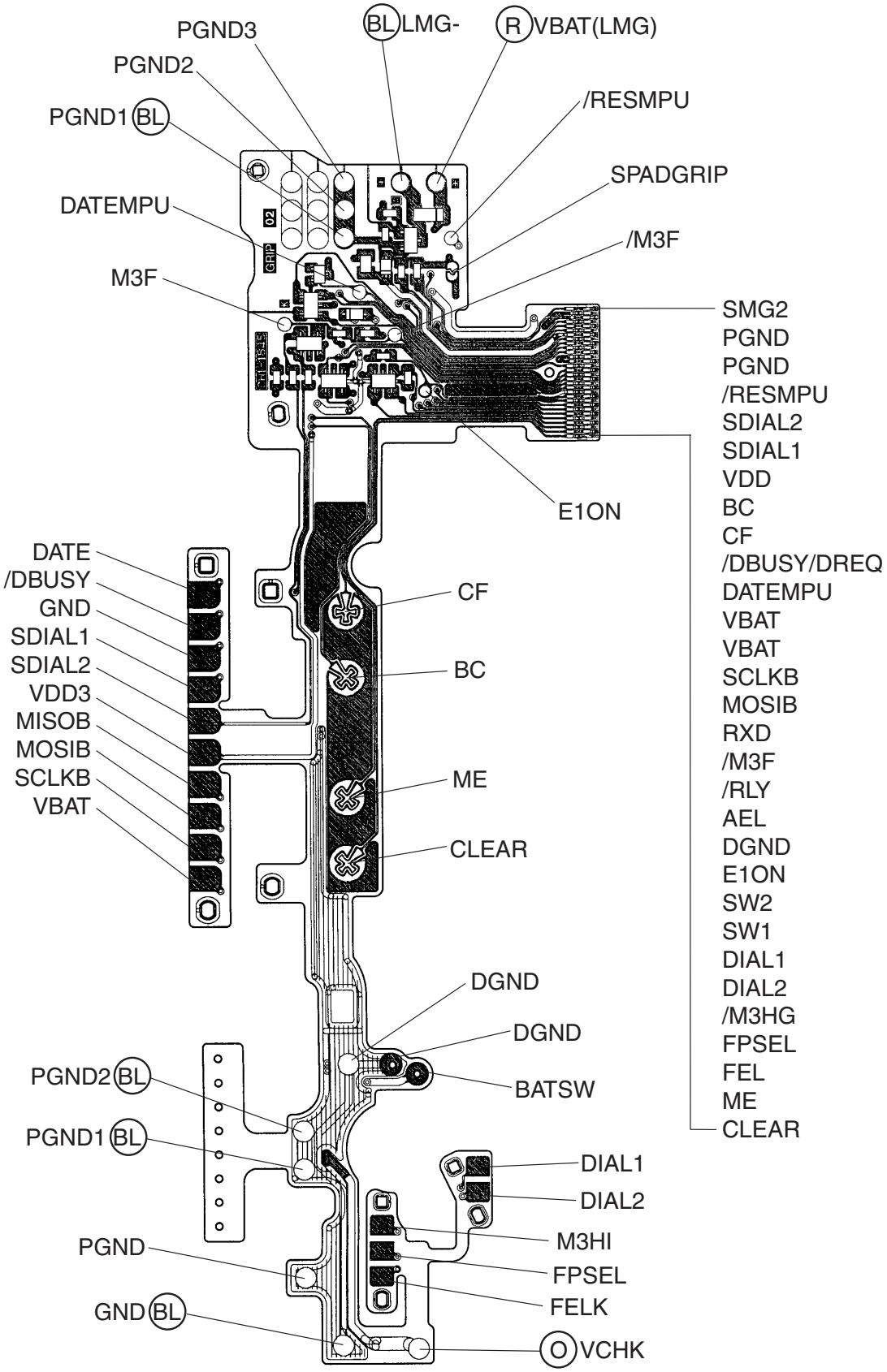
4-2.GRIP FPC (A-2)

REF. NO. C12-8401



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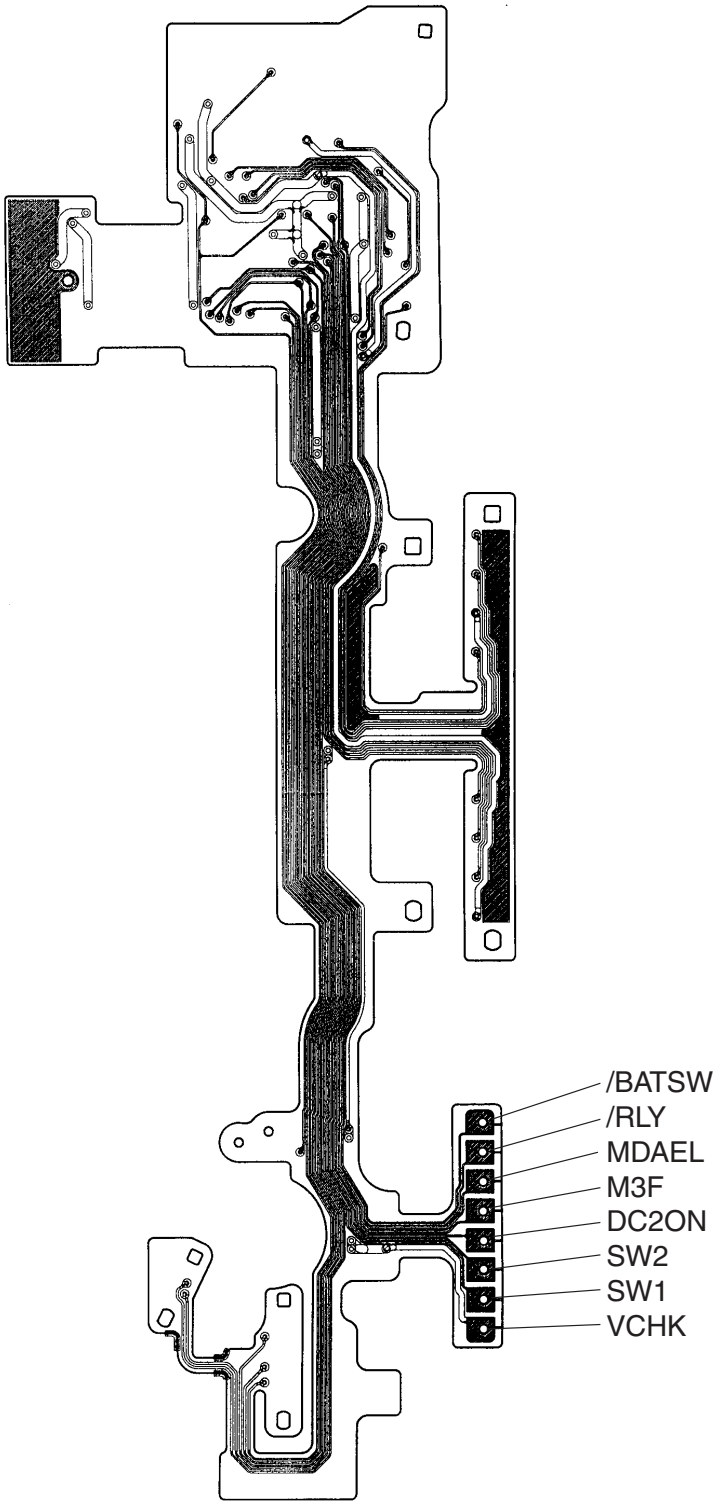

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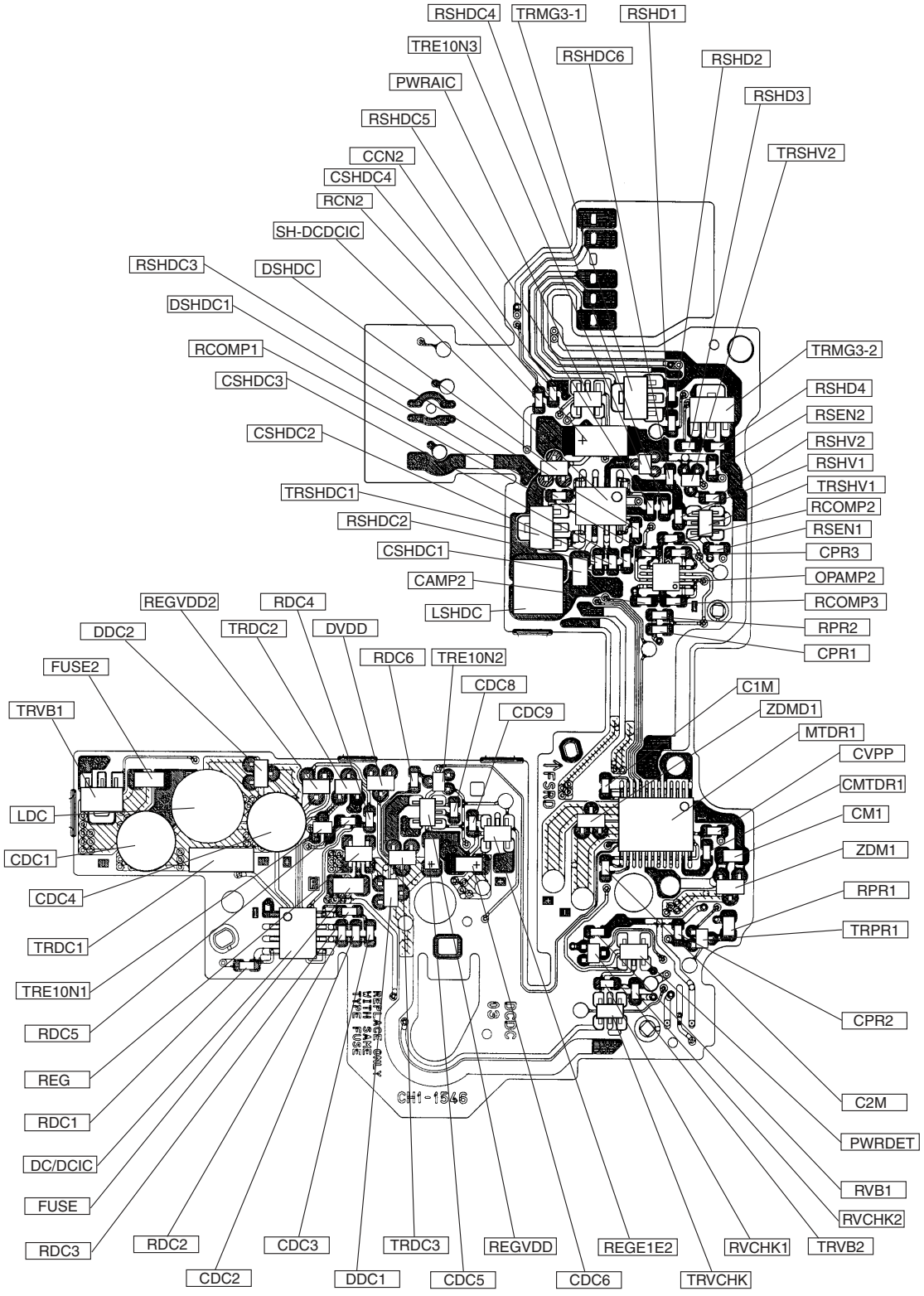
5.DCDC FPC
5-1.DCDC FPC (A-1)

REF. NO. C12-8401



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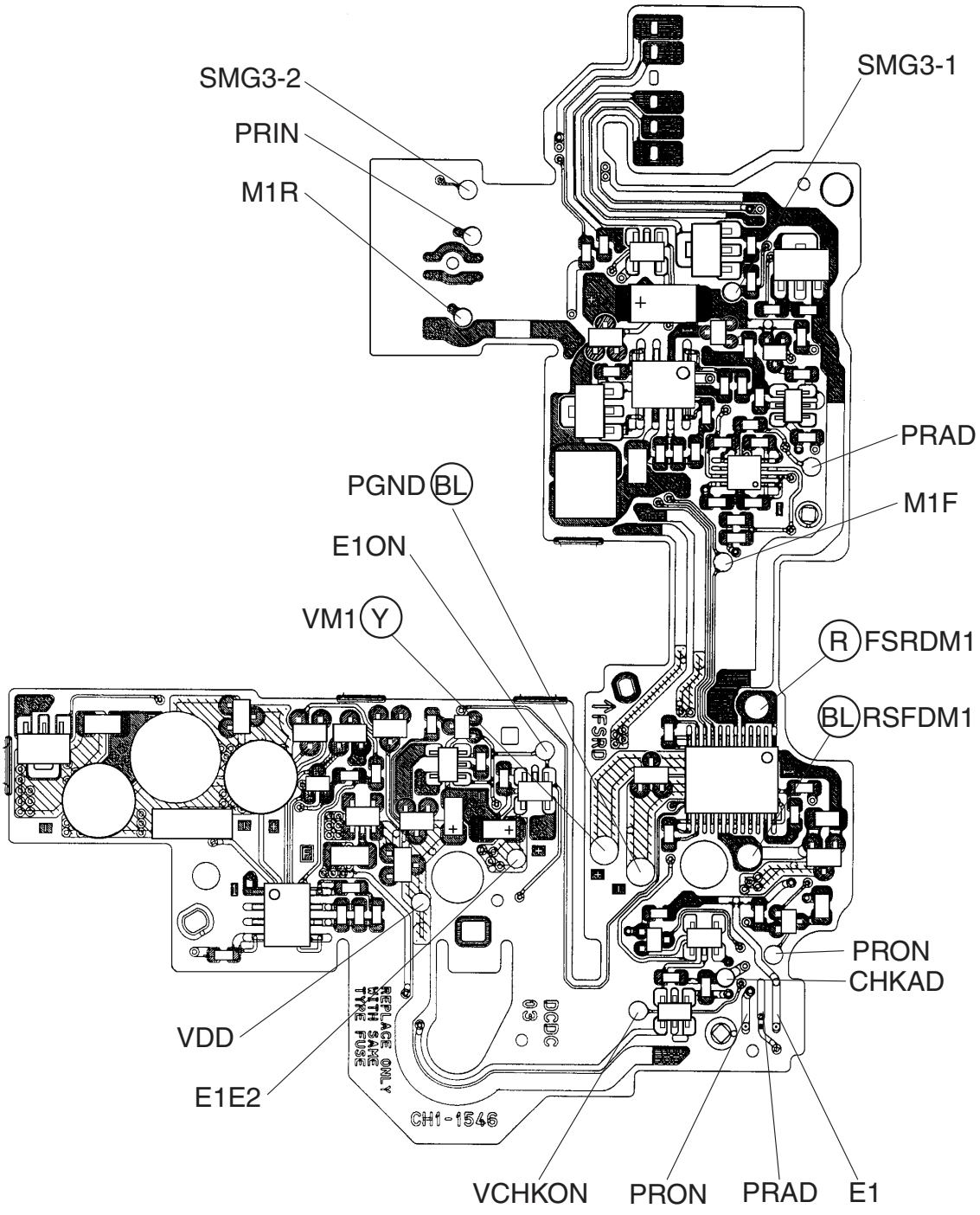
5-2.DCDC FPC (A-2)

REF. NO. C12-8401



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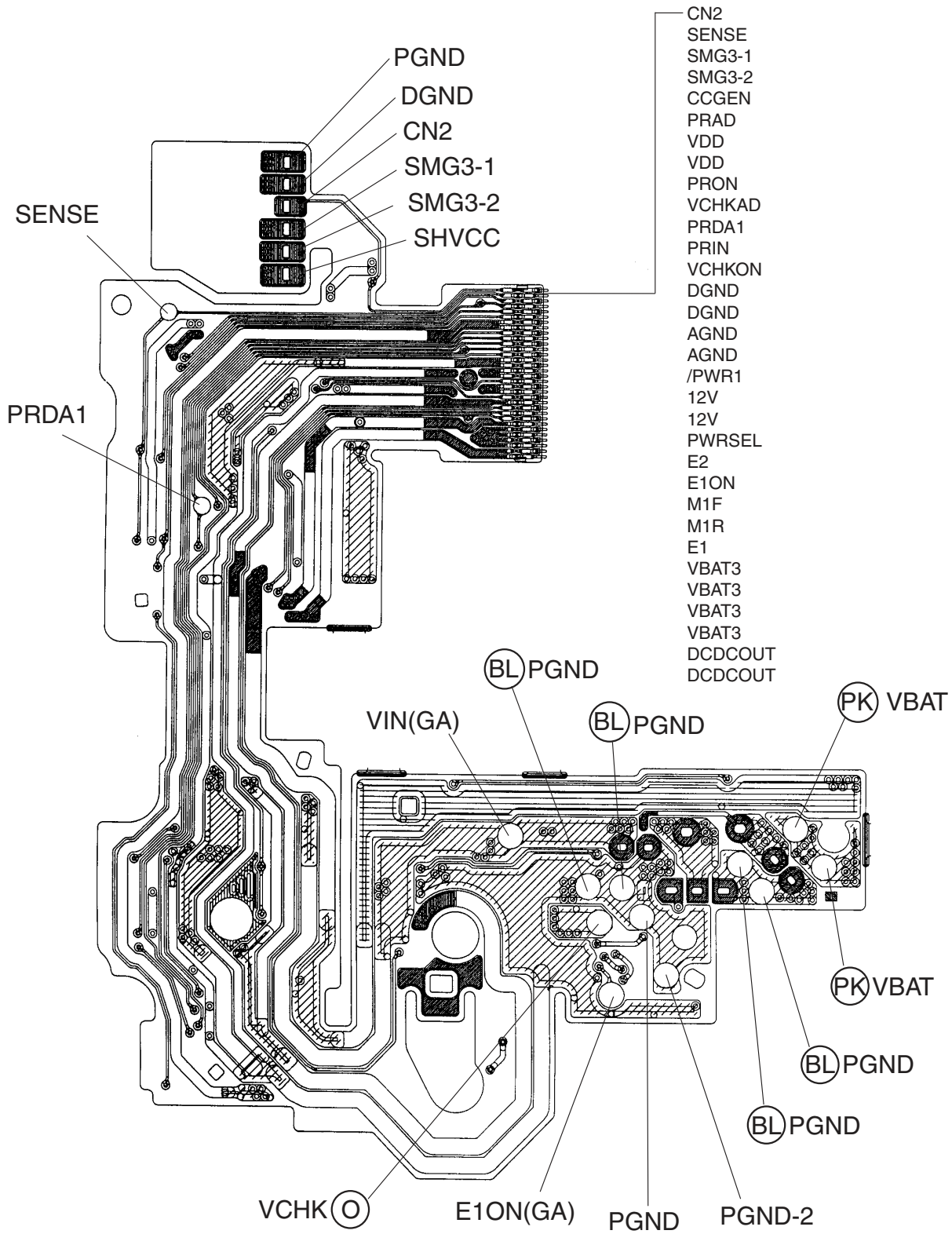
5-3.DCDC FPC (B)

REF. NO. C12-8401



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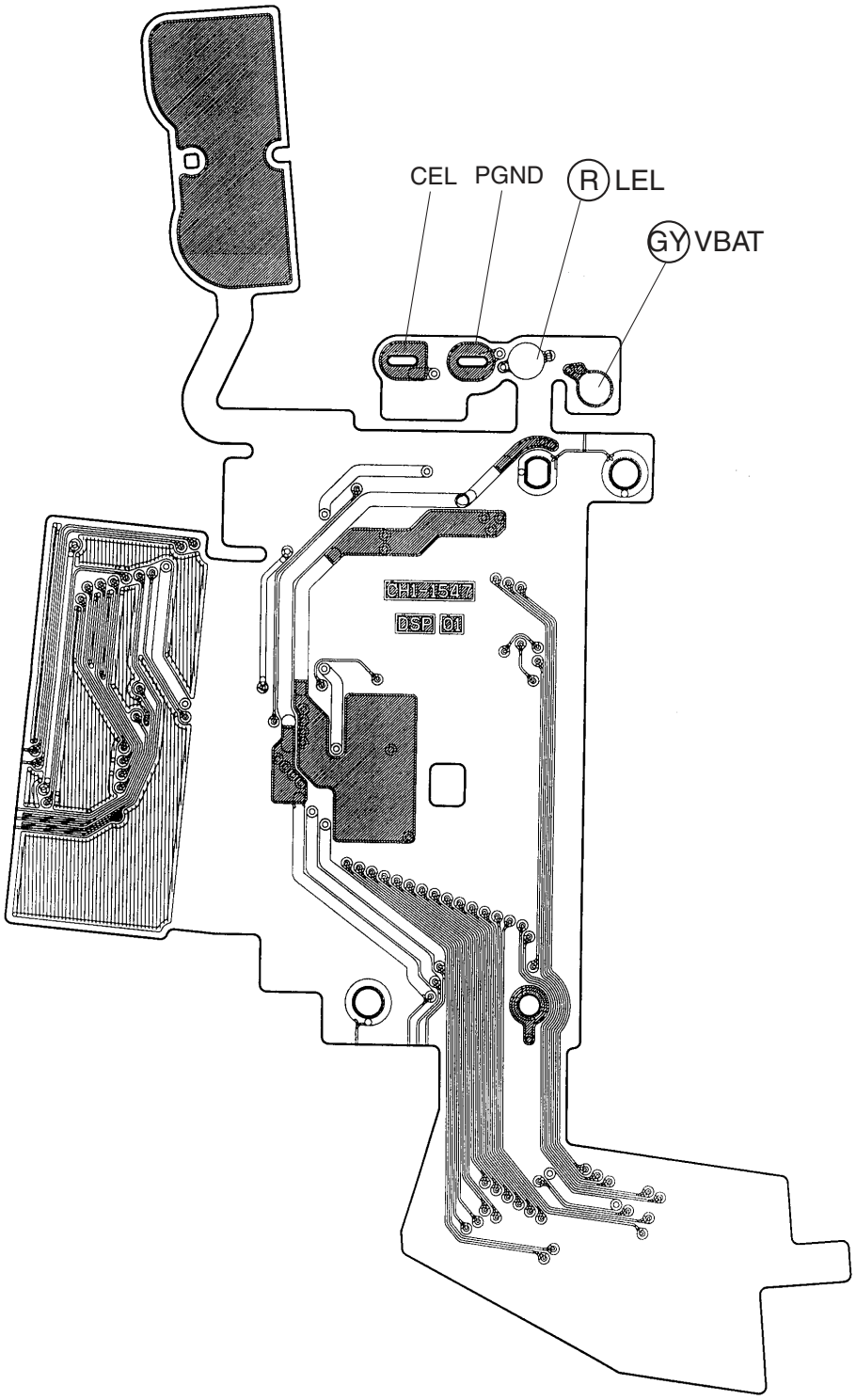
6.DSP FPC
6-1.DSP FPC (A)

REF. NO. C12-8401



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2-12 AF-assist beam: With an EOS Speedlite attached (with built-in AF-assist light) and turned on, a near-infrared beam (peak wavelength of 700 nm) is emitted automatically by the Speedlite when necessary.
550EX and ST-E2: Linked to the 45-point Area AF.
540EZ: Emitted during automatic focusing point selection or when a focusing point along the center horizontal row is selected.
Other EOS Speedlites: Emitted during automatic focusing point selection or when the center focusing point is selected.
* The camera has no built-in AF-assist beam emitter.

3. Viewfinder

3-1 Type: SLR-type, fixed eye-level pentaprism with condenser lens

3-2 Standard focusing screen: Interchangeable
Laser-matte screen with Area AF ellipse, focusing points, and fine spot metering circle provided as the standard screen.
Interchangeable with Ec-series focusing screens.
Metering correction data can be set with a Custom Function for the Laser Matte and New Laser Matte screens.

3-3 Standard diopter: -1 diopter. Adjustable from -3 diopter to +1 diopter.

3-4 Eye relief: 20mm

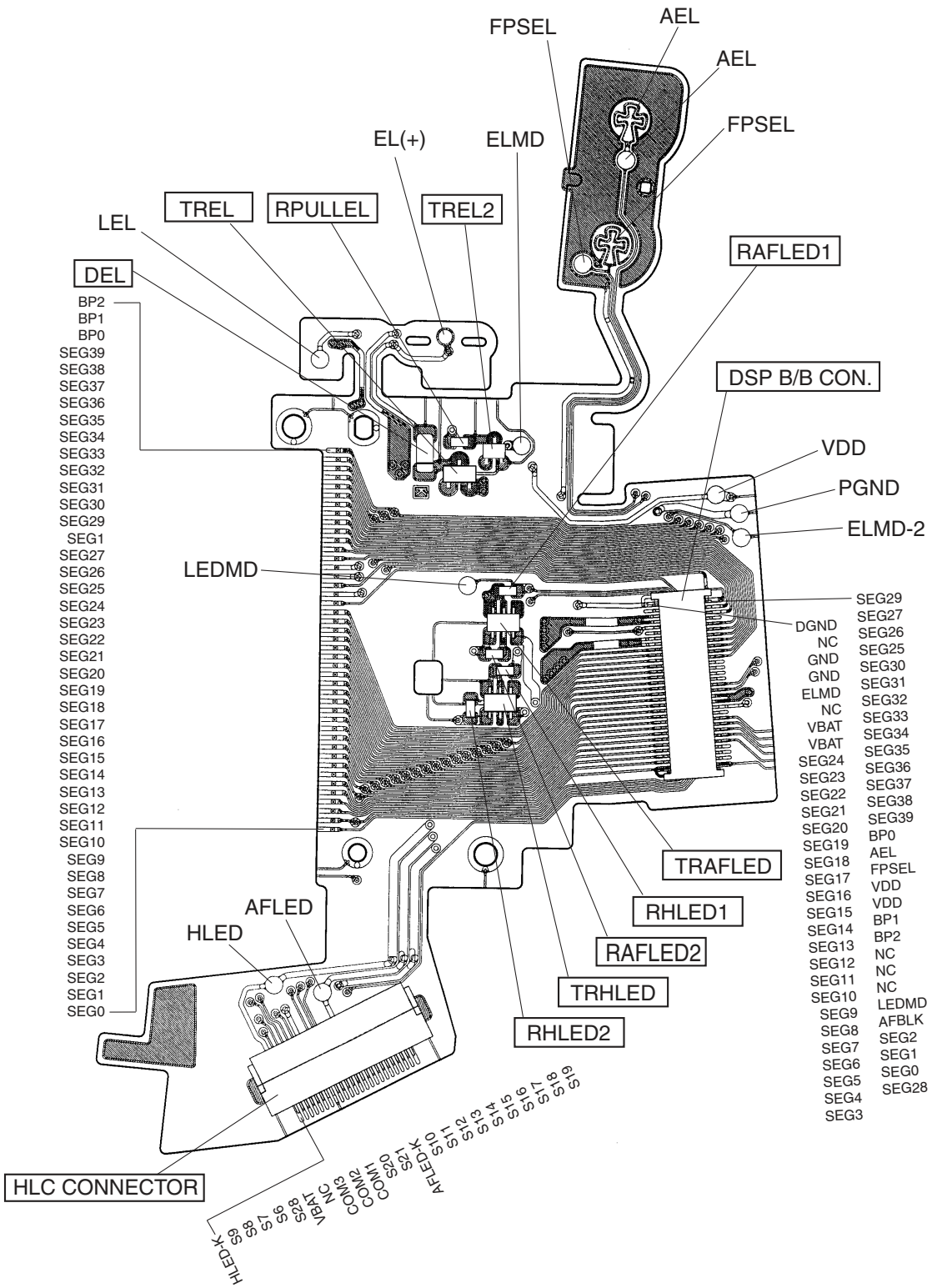
3-5 Picture coverage: 100 percent vertically and horizontally

3-6 Magnification: 0.72 × (with 50mm lens at infinity, -1 diopter)

3-7 Viewfinder information:
(1) On the screen
① Area AF ellipse
② Focusing points
③ Fine spot metering circle
(2) Below the screen (Main indicators)
① Manual exposure level
② AE lock (Blinks at 2 Hz during AEB.)
③ Flash ready (Blinks when the FE lock setting is unsuitable)
④ High-speed sync (FP flash)
⑤ Shutter speed (If unsuitable, it blinks at 2 Hz as a warning.)
⑥ FE lock (FEL)
⑦ Bulb (buLb)
⑧ Focusing point selection mode
⑨ Depth-of-field AE mode (DEP1, DEP2)
⑩ Aperture setting (If unsuitable, it blinks at 2 Hz as a warning.)
⑪ Exposure compensation / Flash exposure compensation
⑫ In-focus indicator (Blinks at 8 Hz if focus cannot be achieved.)

6-2.DSP FPC (B)

REF. NO. C12-8401



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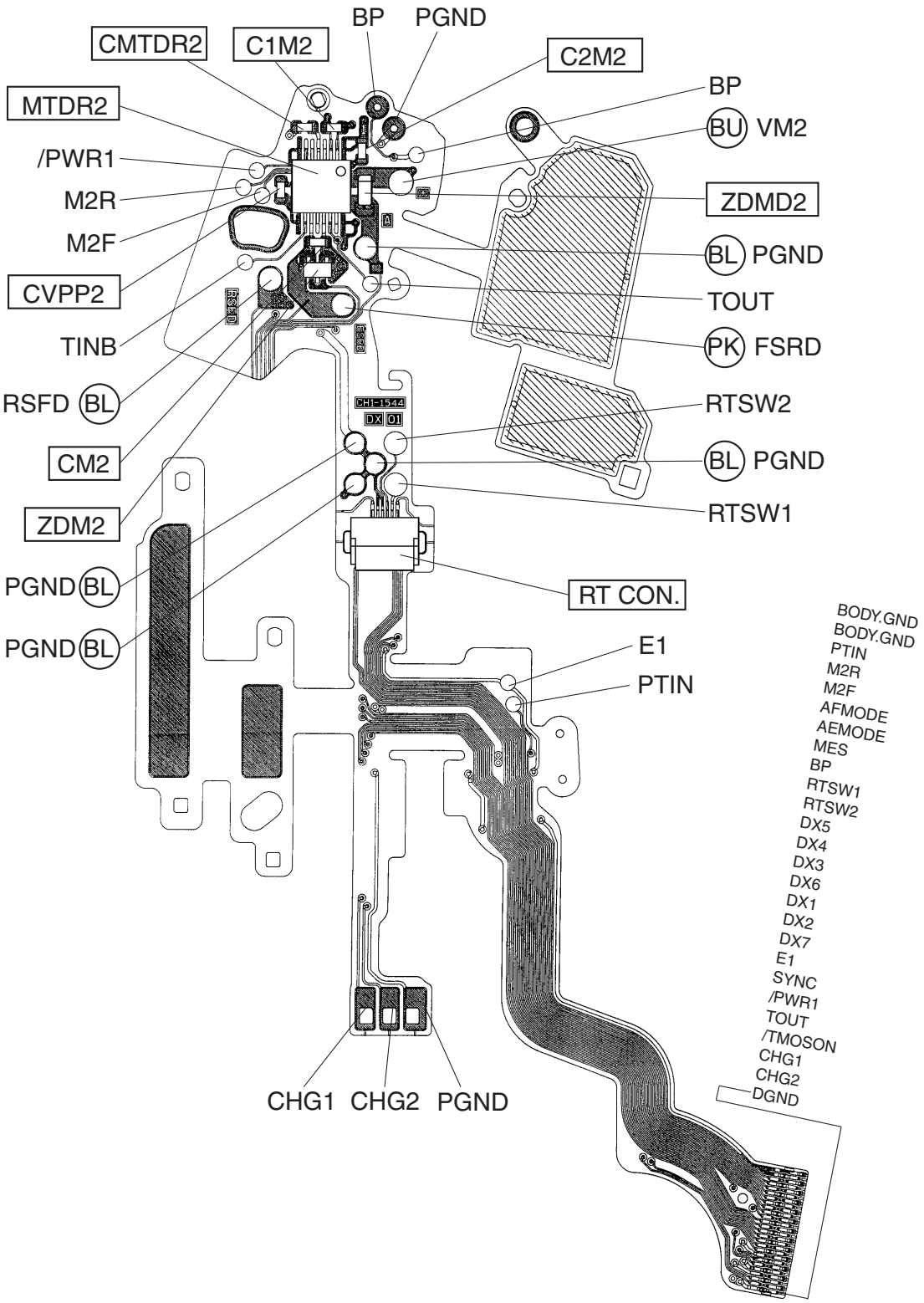
7.DX FPC
7-1.DX FPC (A)

REF. NO. C12-8401



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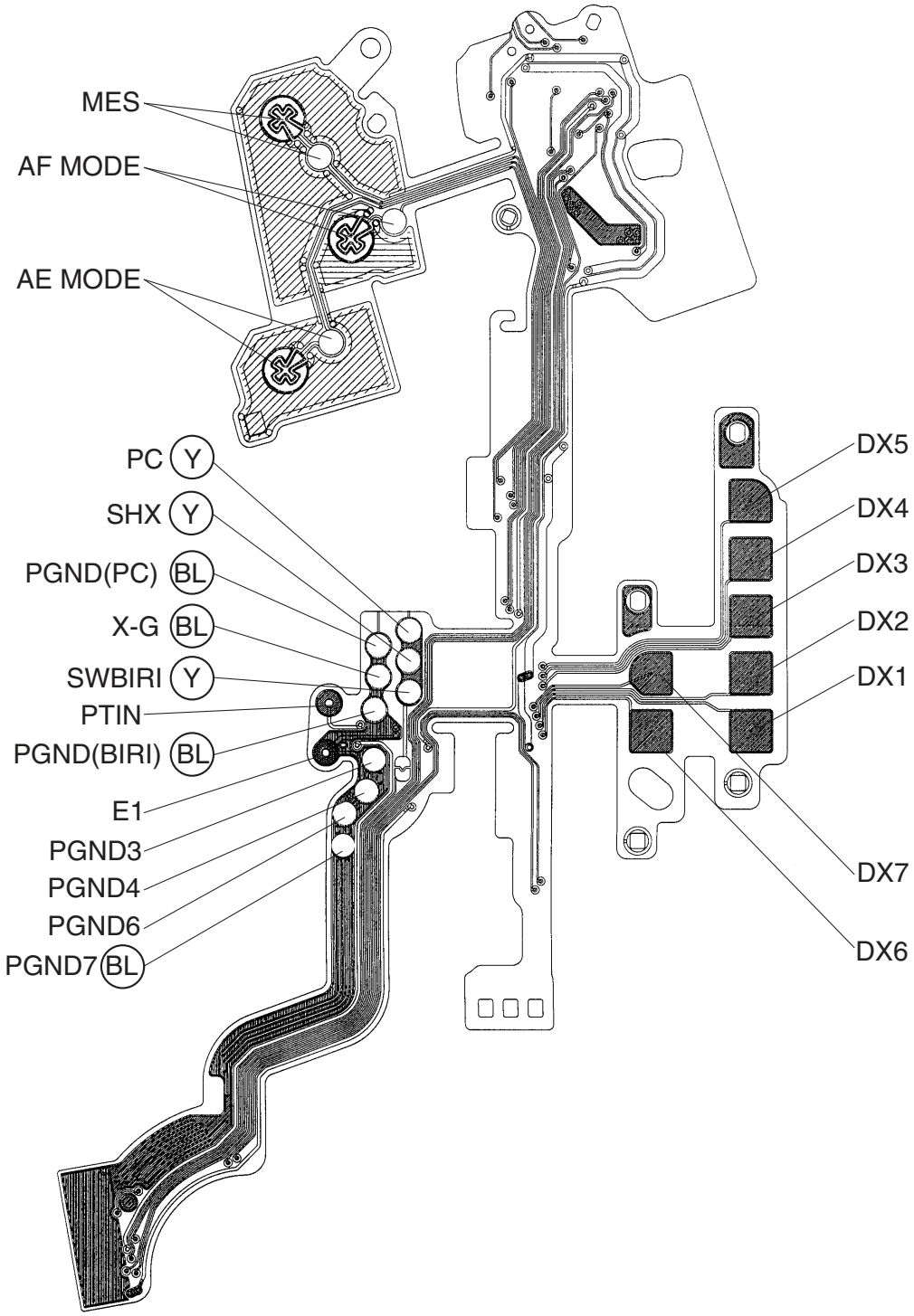

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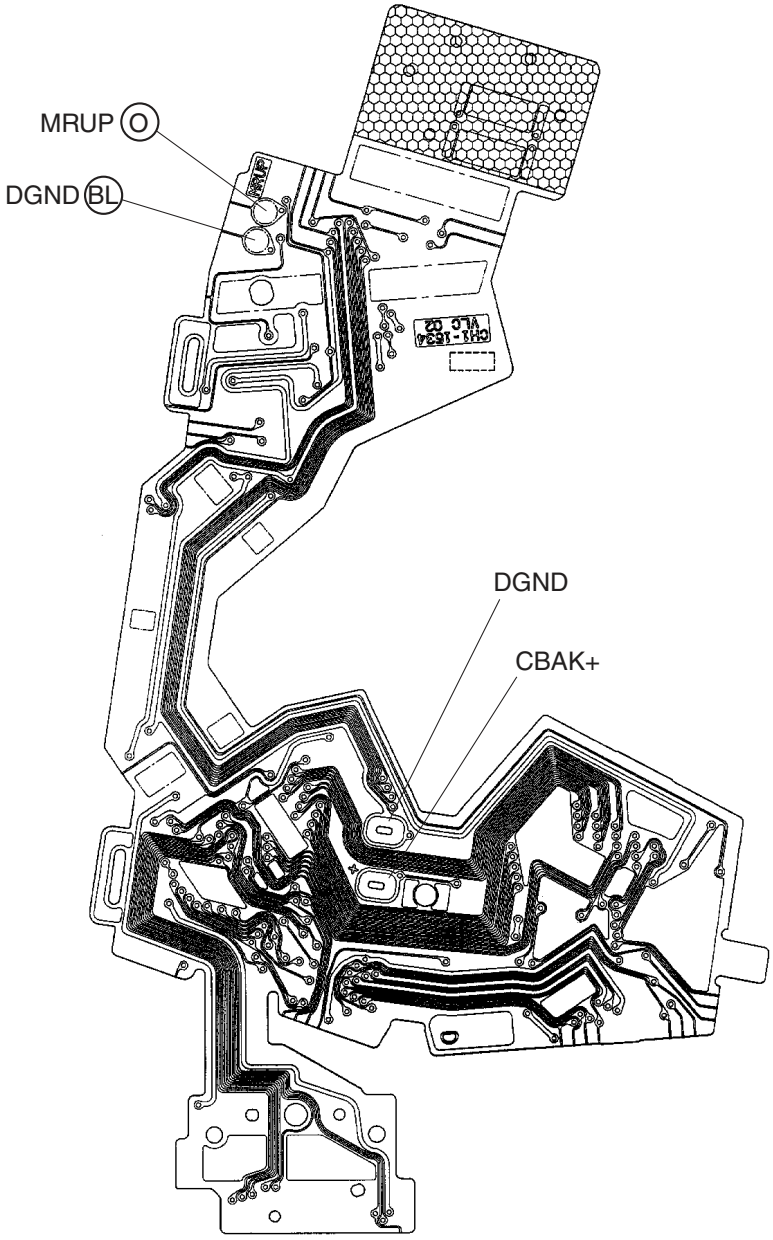
8.VLC FPC
8-1.VLC FPC (A)

REF. NO. C12-8401



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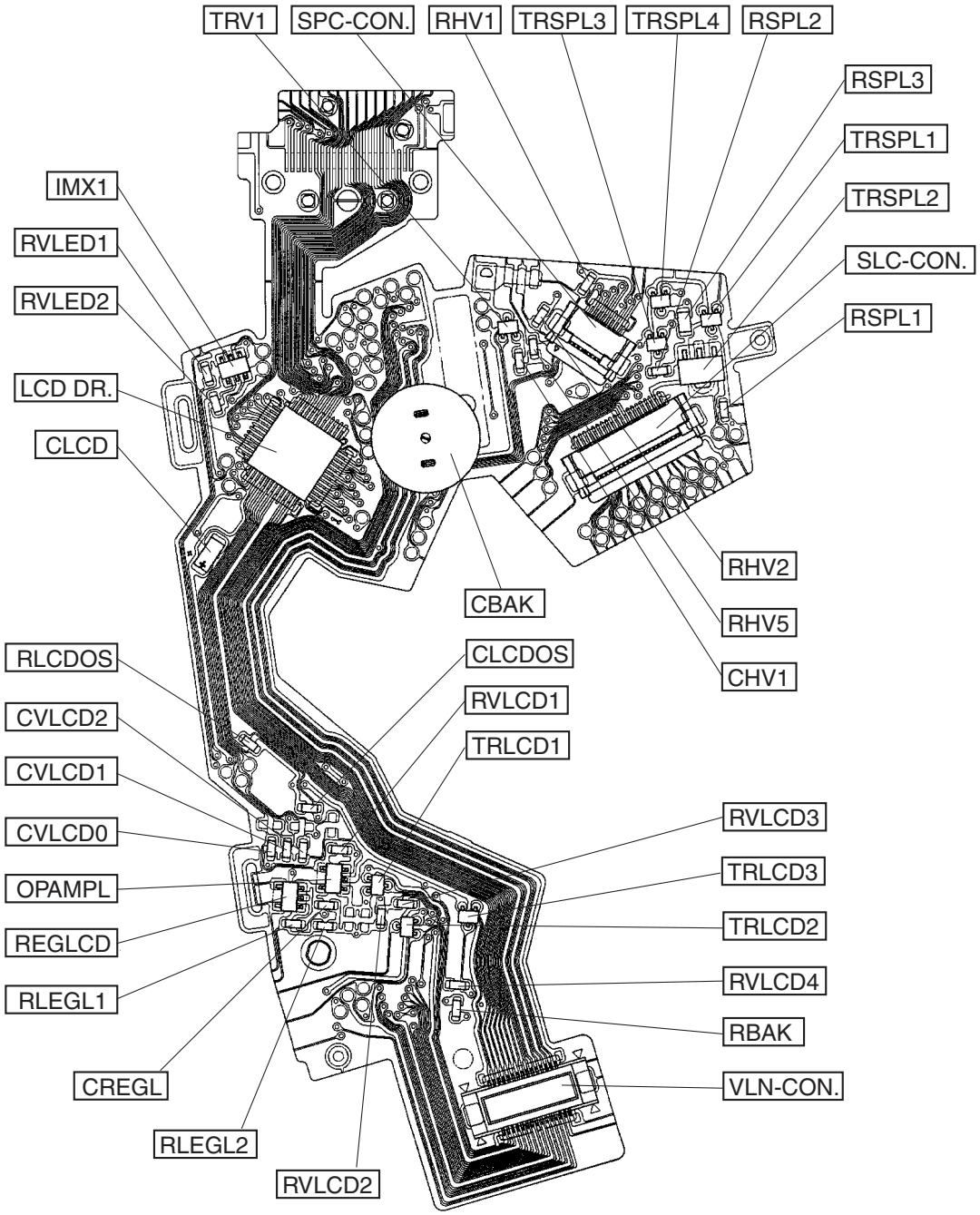
8-2.VLC FPC (B-1)

REF. NO. C12-8401



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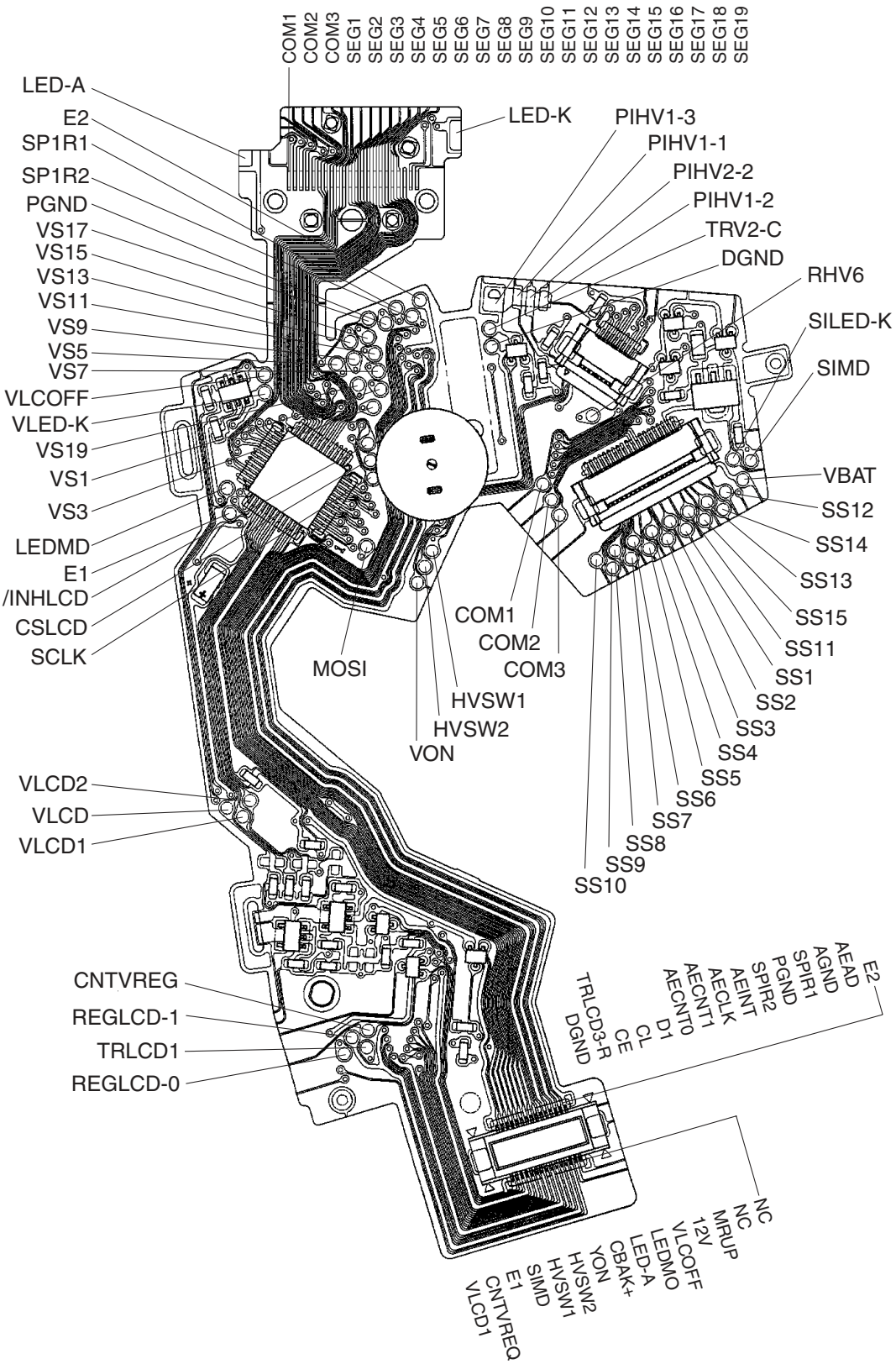

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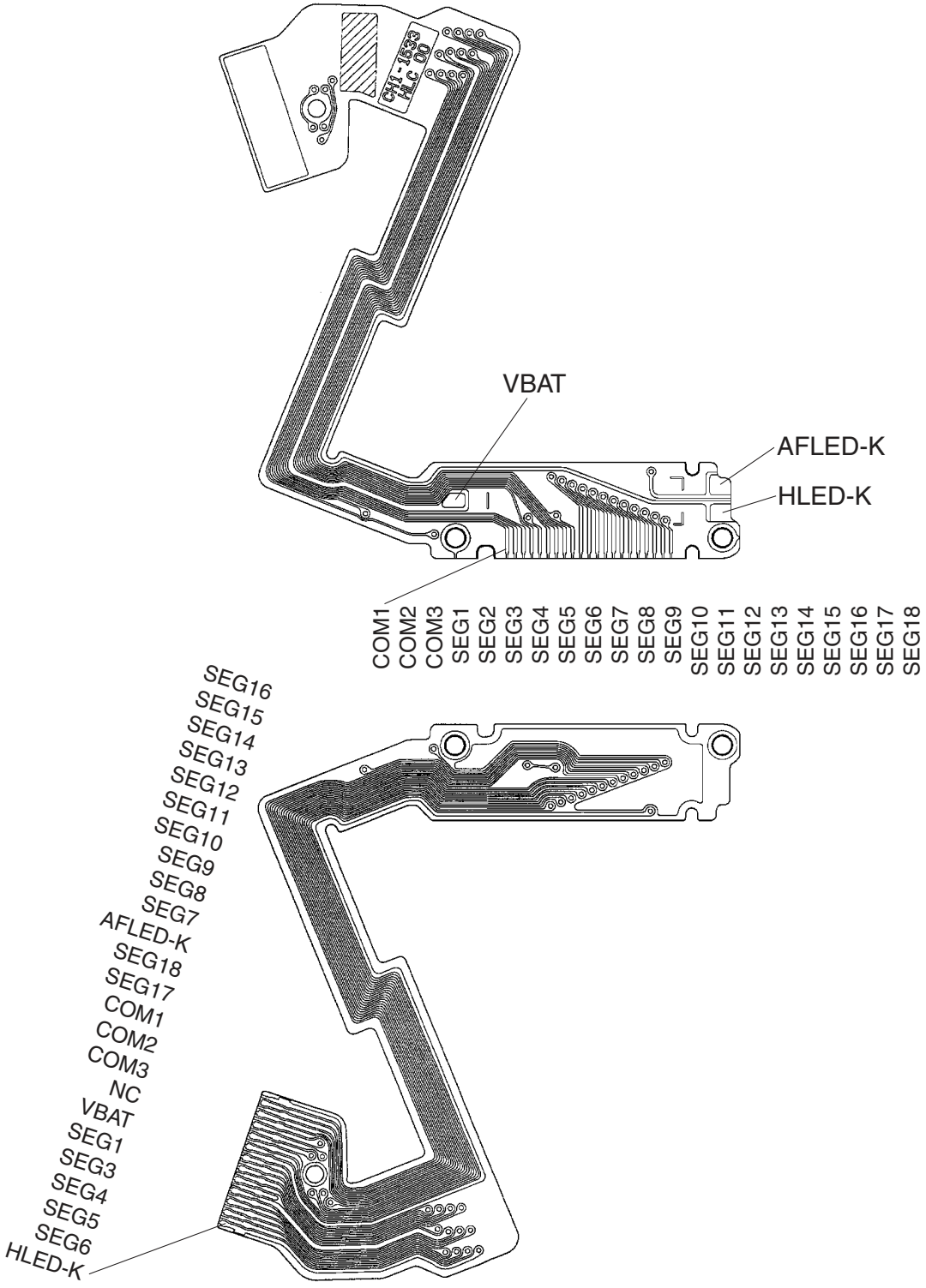
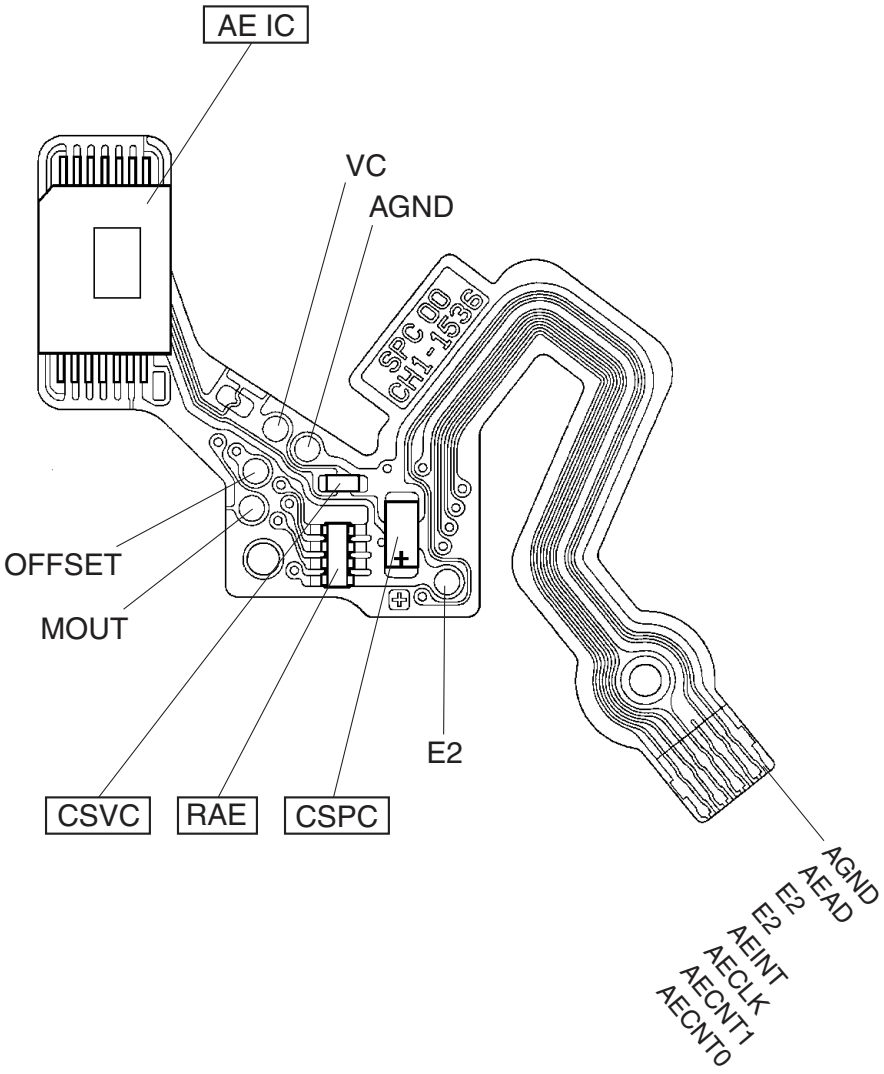
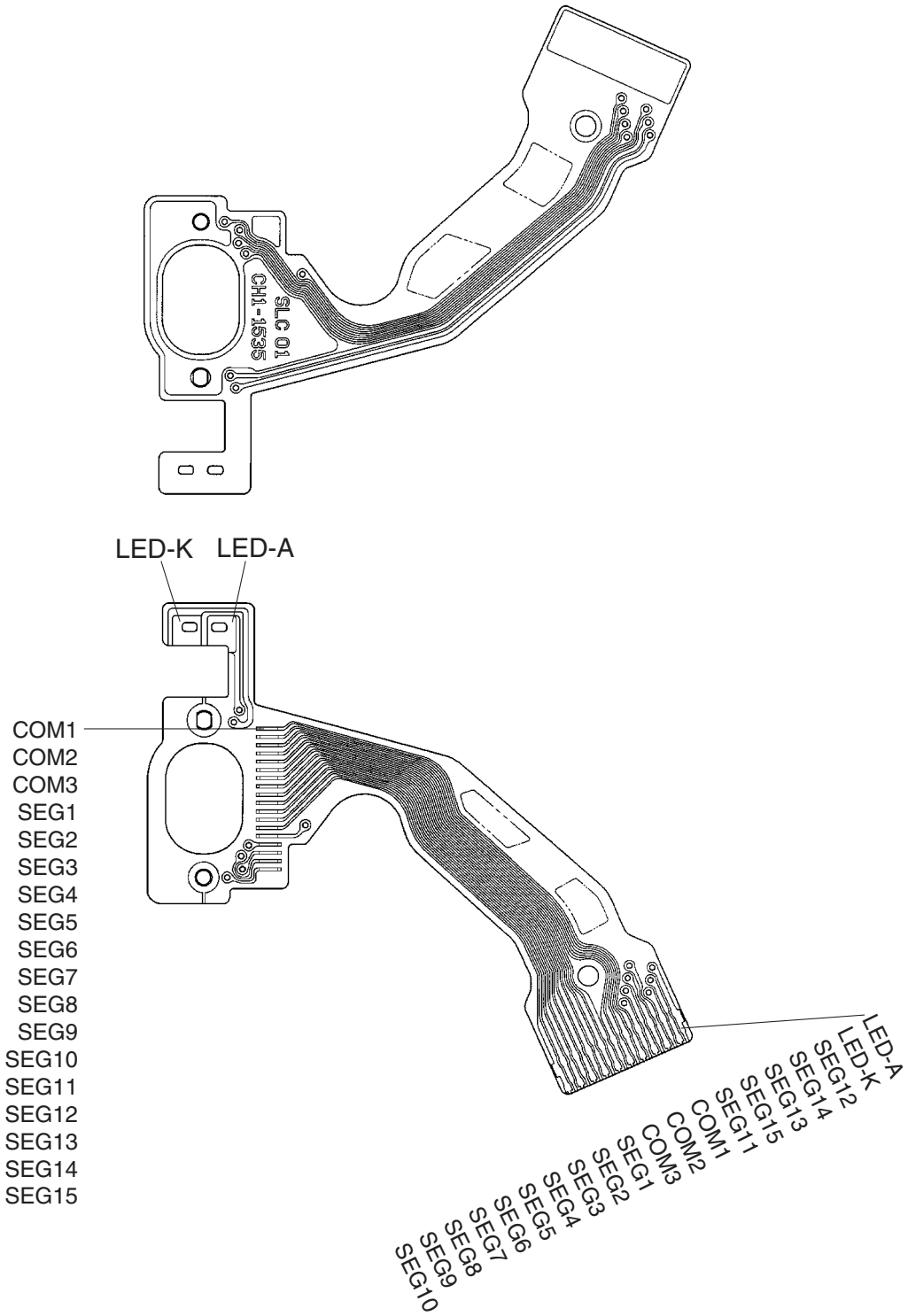


© CANON INC. 2000



© CANON INC. 2000



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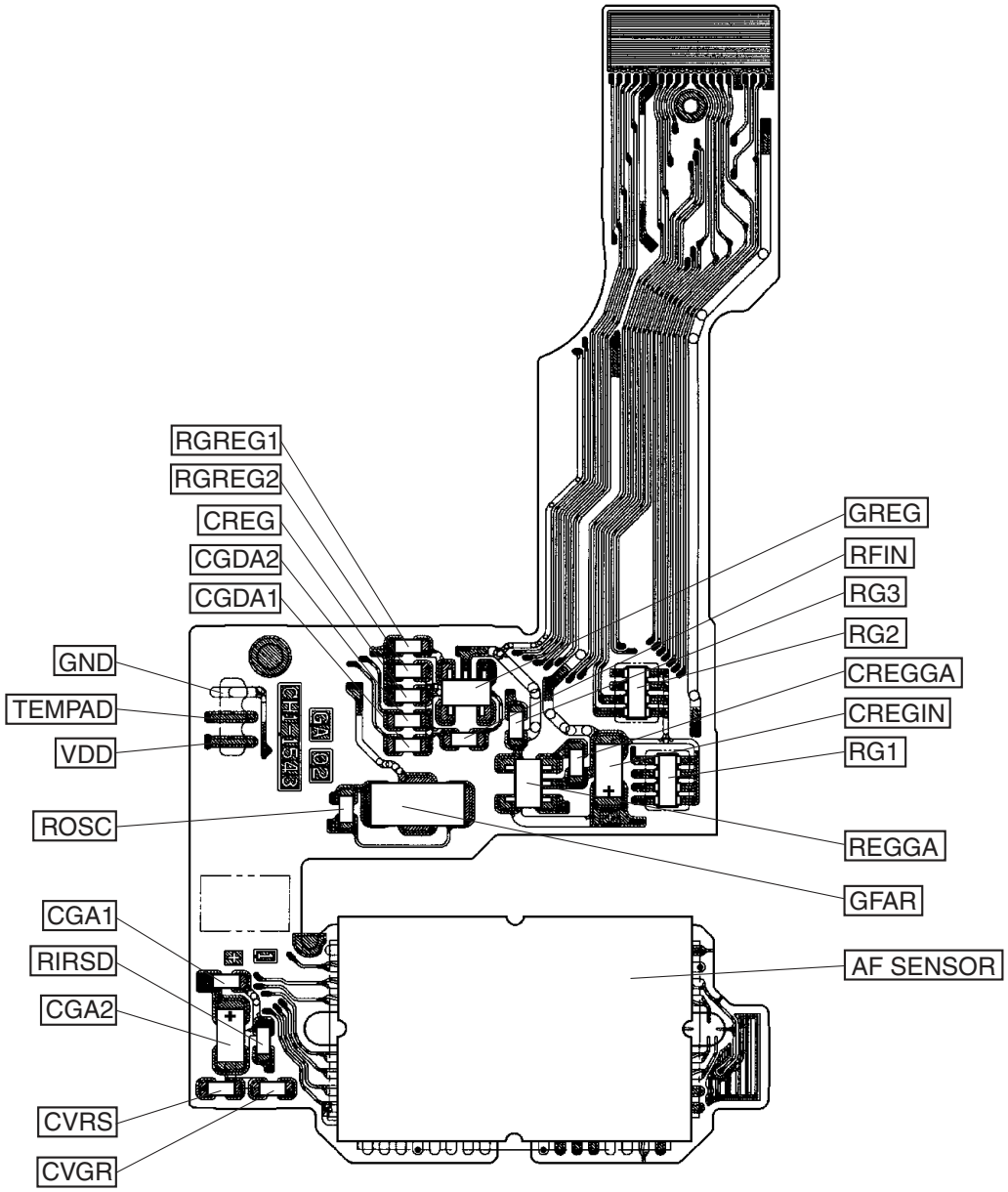
12.GA FPC
12-1.GA FPC (A)

REF. NO. C12-8401



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(3) Right of screen
① Exposure level scale in 1/3-stop increments ±3 stops)
② Exposure level
②-1. AE exposure compensation amount
②-2. AE lock and real-time metering indicator
②-3. Manual exposure level
②-4. AEB amount (3 dots)
②-5. Background exposure with flash (camera metering reading)
②-6. Multi-spot metering
③ Metering level
③-1. Flash exposure compensation amount
③-2. Reverse highlight of dot bars during FE lock
③-3. FEB amount (3 dots)
③-4. Multi-spot metering value
④ Frame counter
⑤ Frame countdown icon

3-8 Mirror: Quick-return half mirror (Transmittance:reflectance ratio of 37:63)
Viewfinder blackout time: 87 ms or less at 1/60 sec. or faster speeds.

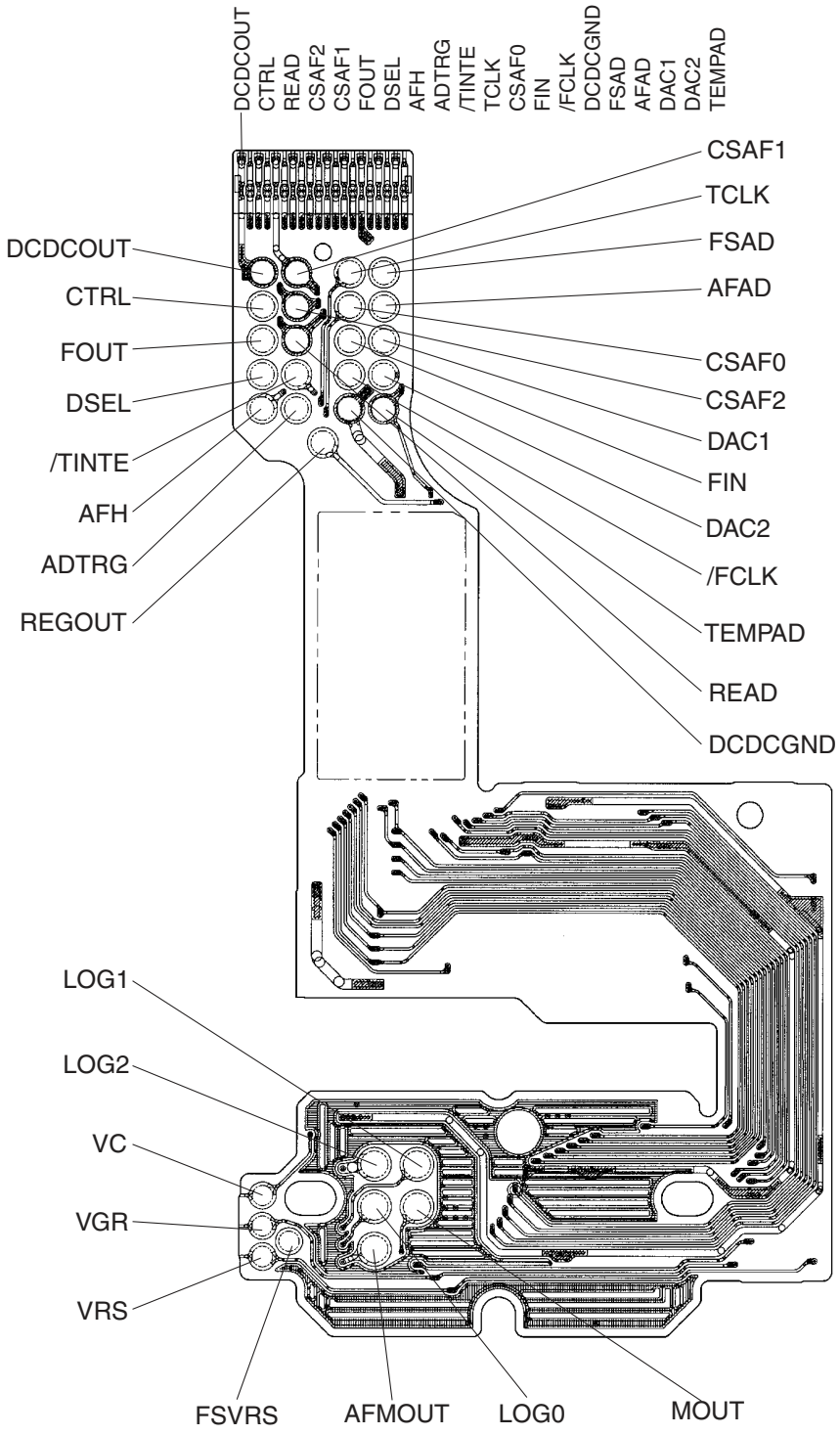
3-9 Mirror lockup: Enabled with CF-12-1
* Mirror locks up when the shutter button is pressed completely. The shutter is then released when the shutter button is released and pressed completely again.
Mirror lockup lasts for 30 sec. after which the mirror returns. There is no exposure during this time.

3-10 Mirror vignetting: No vignetting with lenses up to EF 1200mm f/5.6

3-11 Depth-of-field preview: Enabled with depth-of-field preview button
* With Speedlites capable of wireless flash, a modeling flash fires when the depth-of-field preview button is pressed.

3-12 Built-in eyepiece shutter: Provided

3-13 Misc.: Eyecup Ec-II provided (same as for EOS-1N)
* E-series dioptric adjustment lenses, Angle Finder B and C, and Magnifier S attachable.



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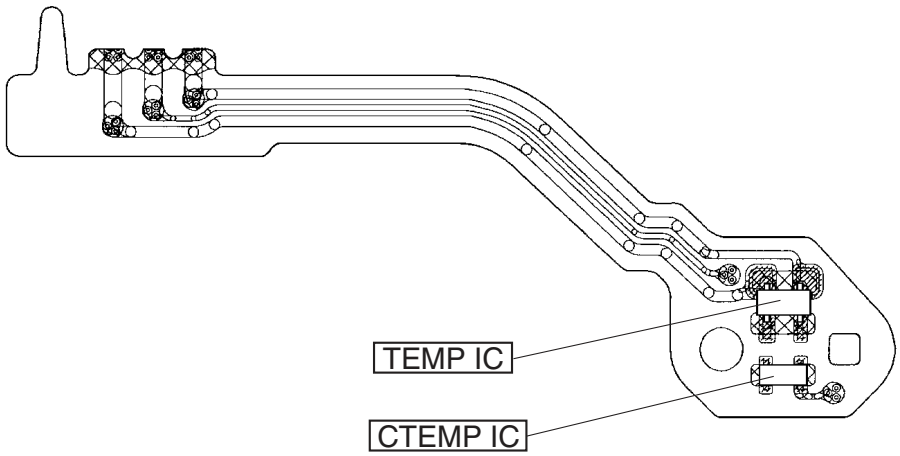
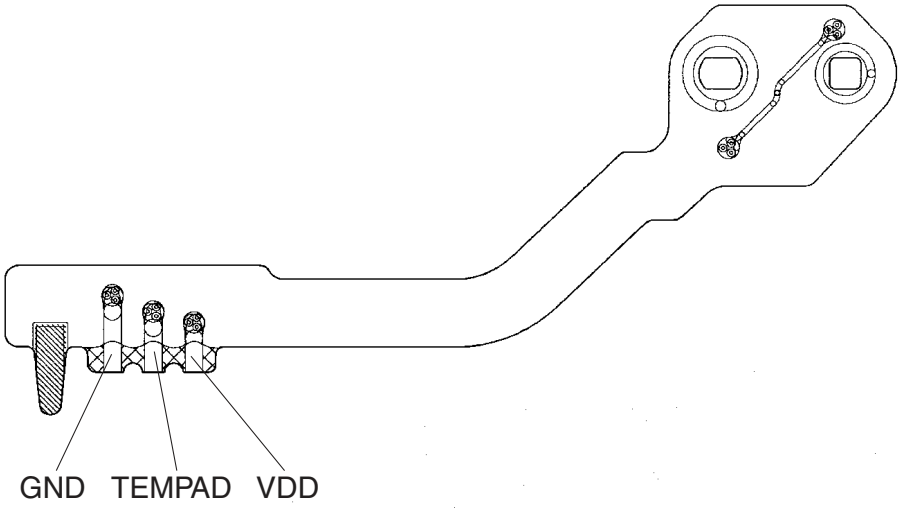
13.TEMP FPC

REF. NO. C12-8401





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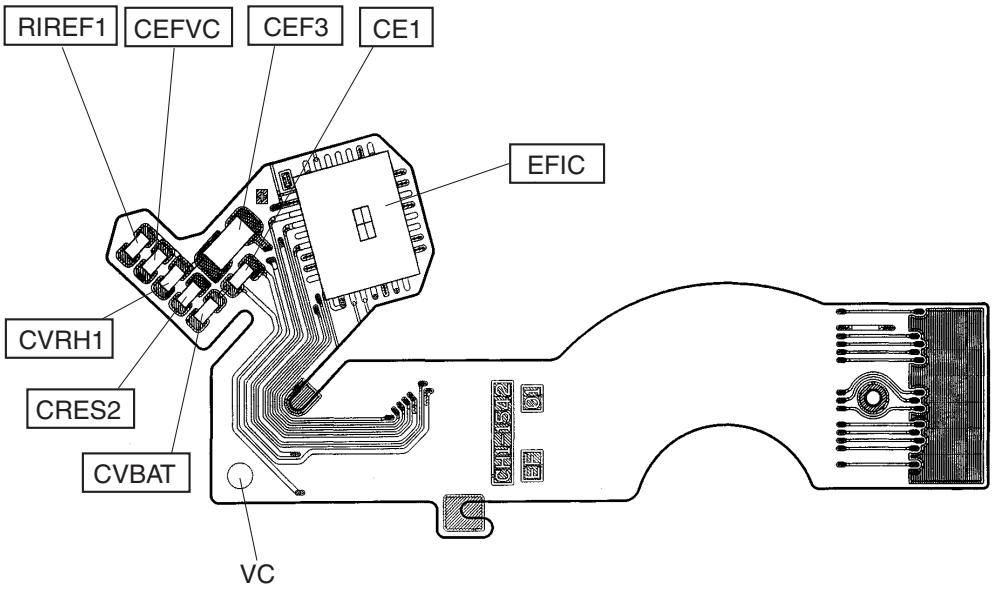

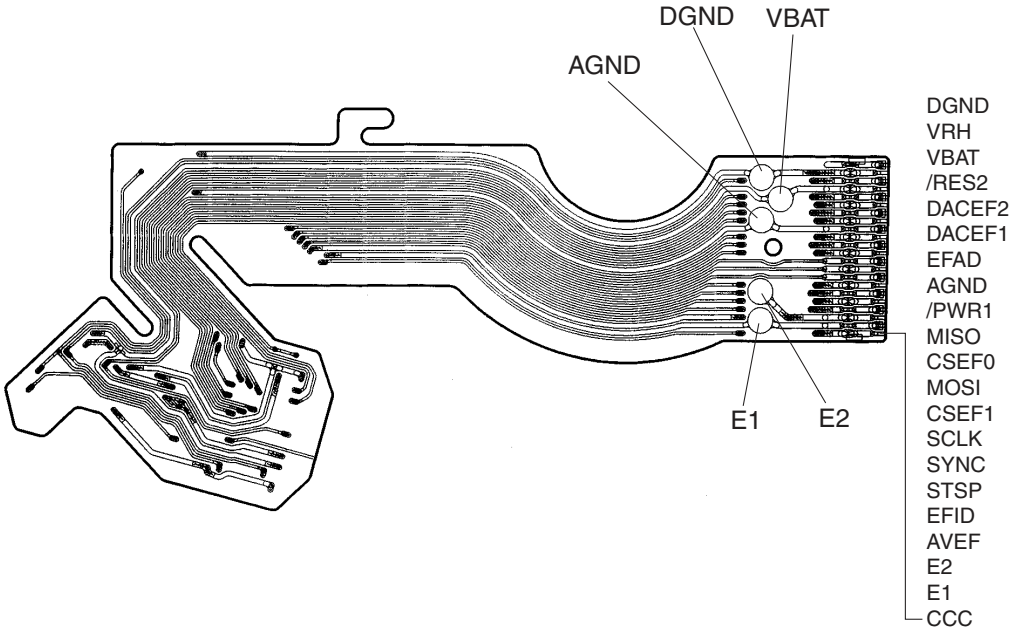

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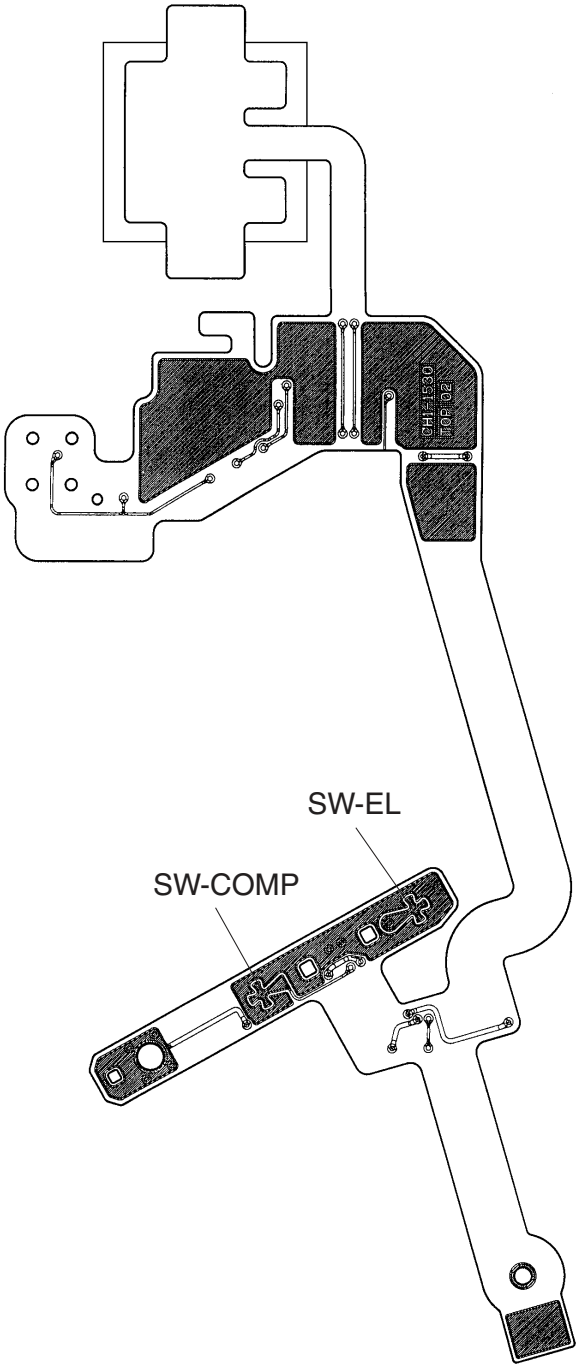
15.TOP FPC
15-1.TOP FPC (A)

REF. NO. C12-8401



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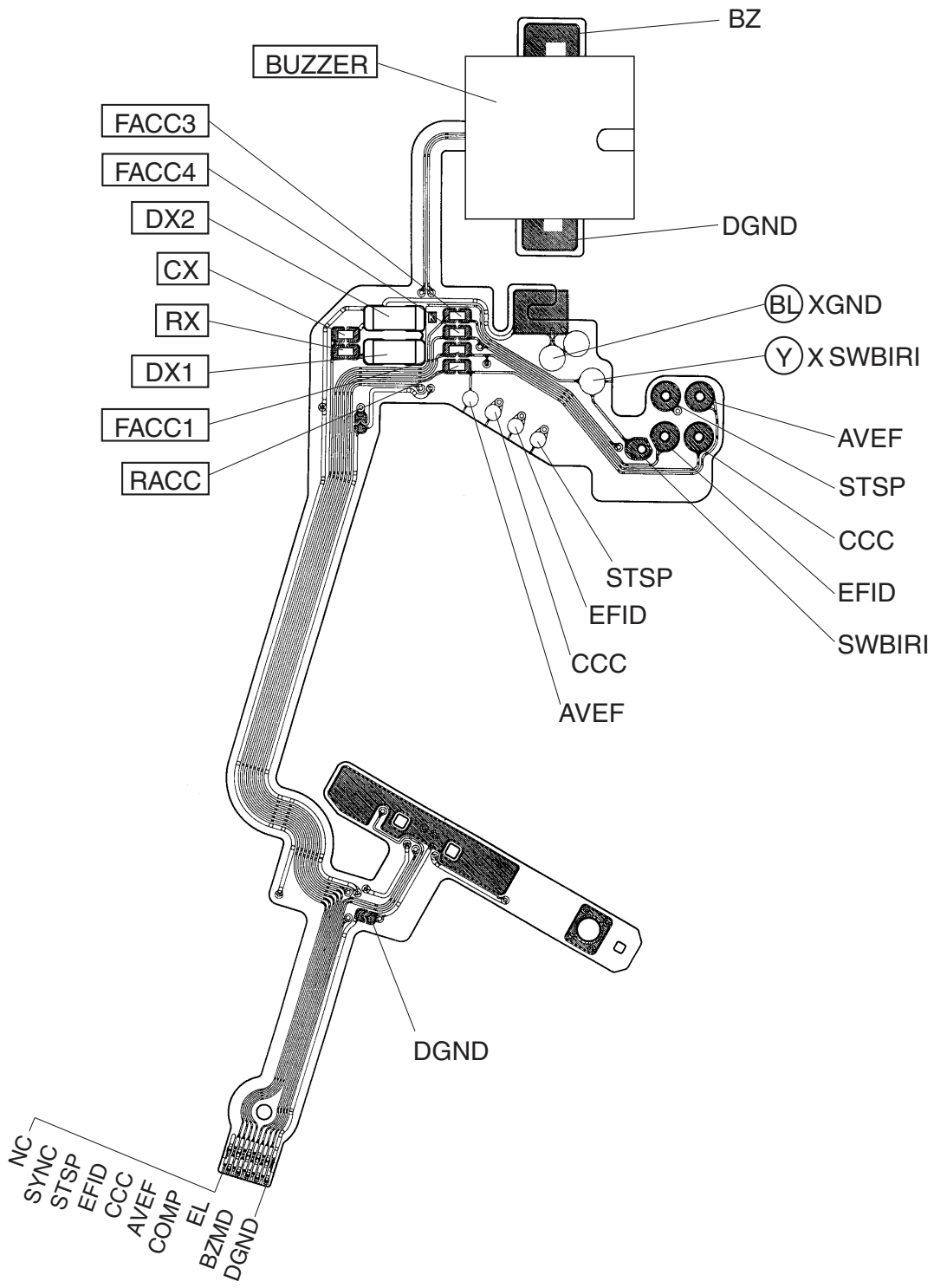

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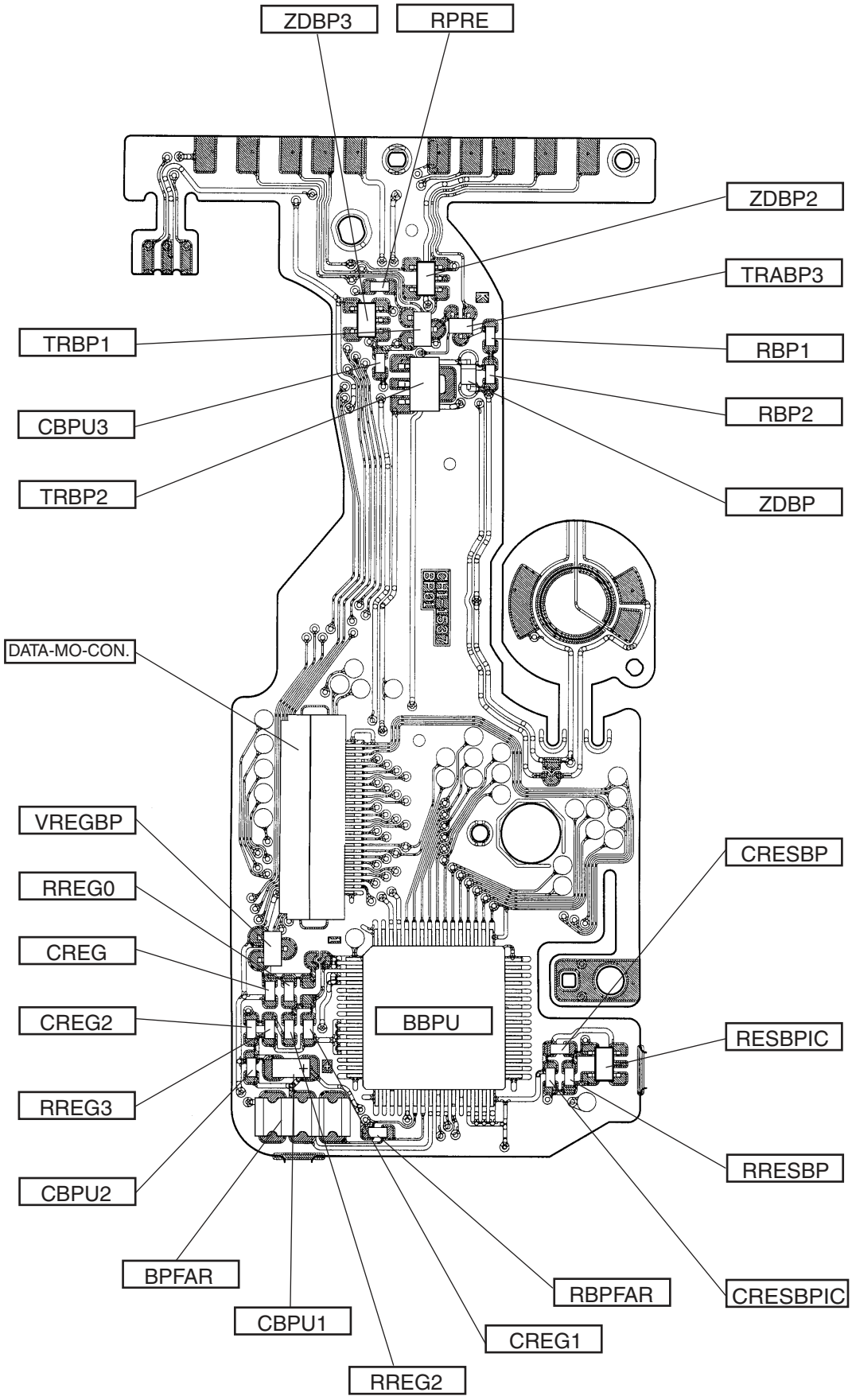
16.BP FPC
16-1.BP FPC (1)

REF. NO. C12-8401



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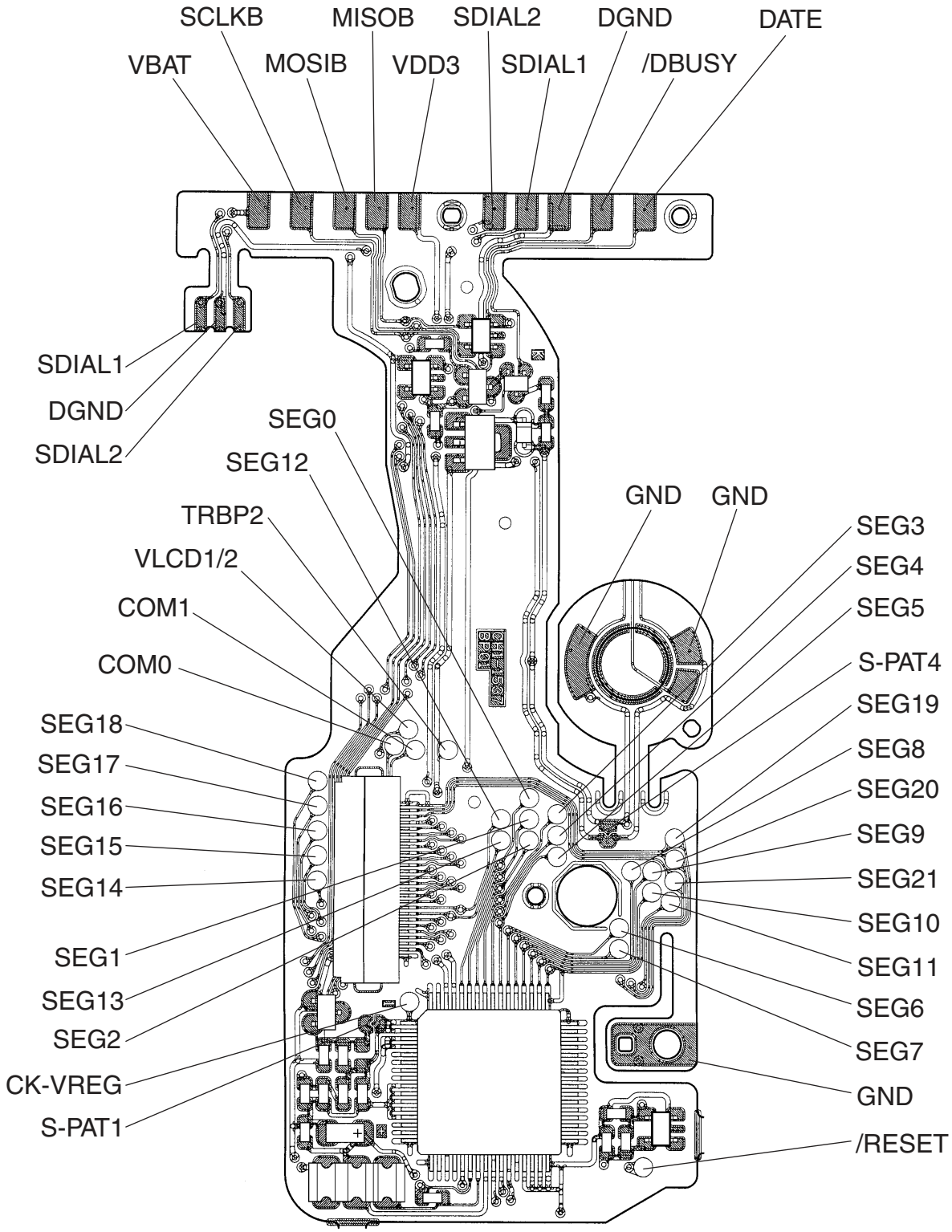

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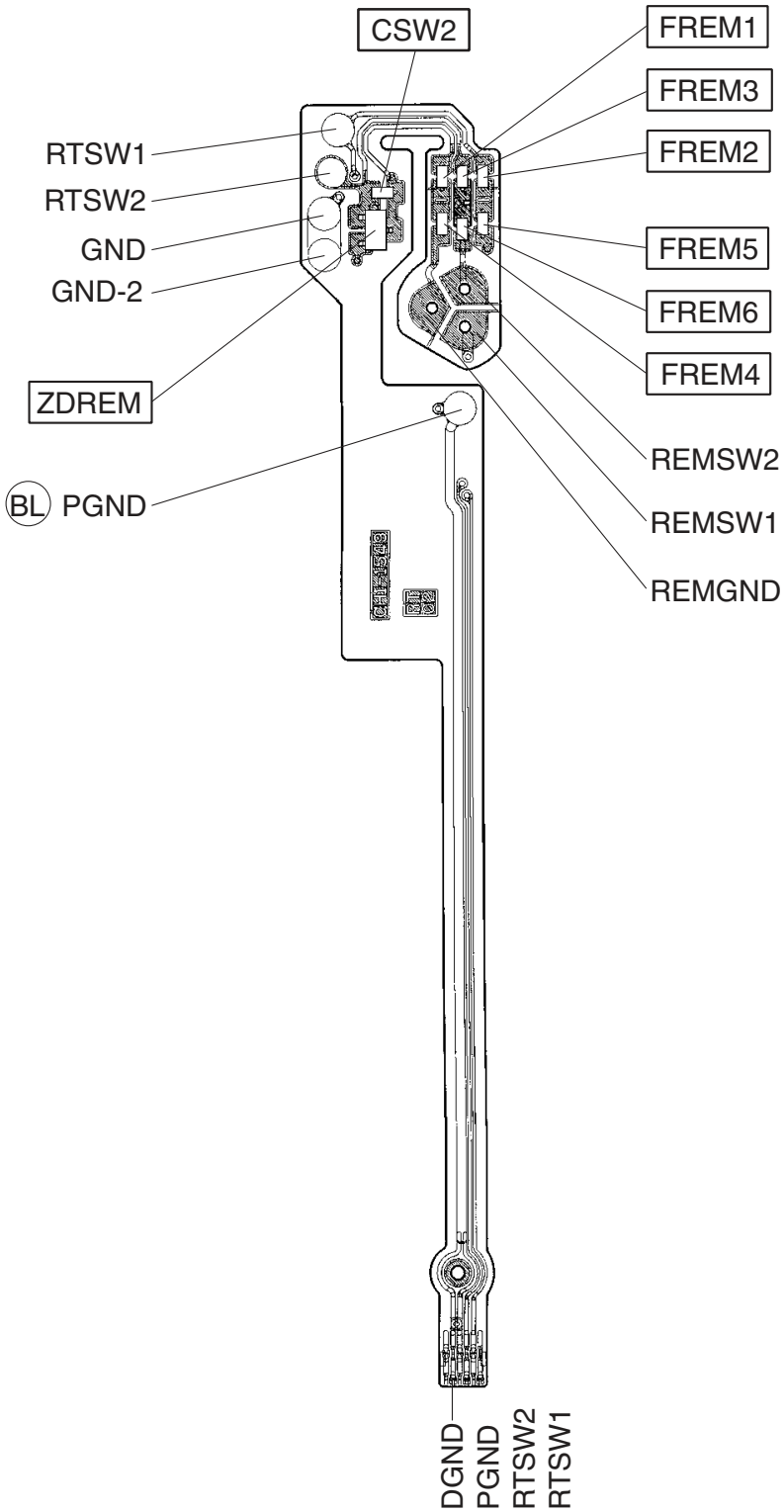

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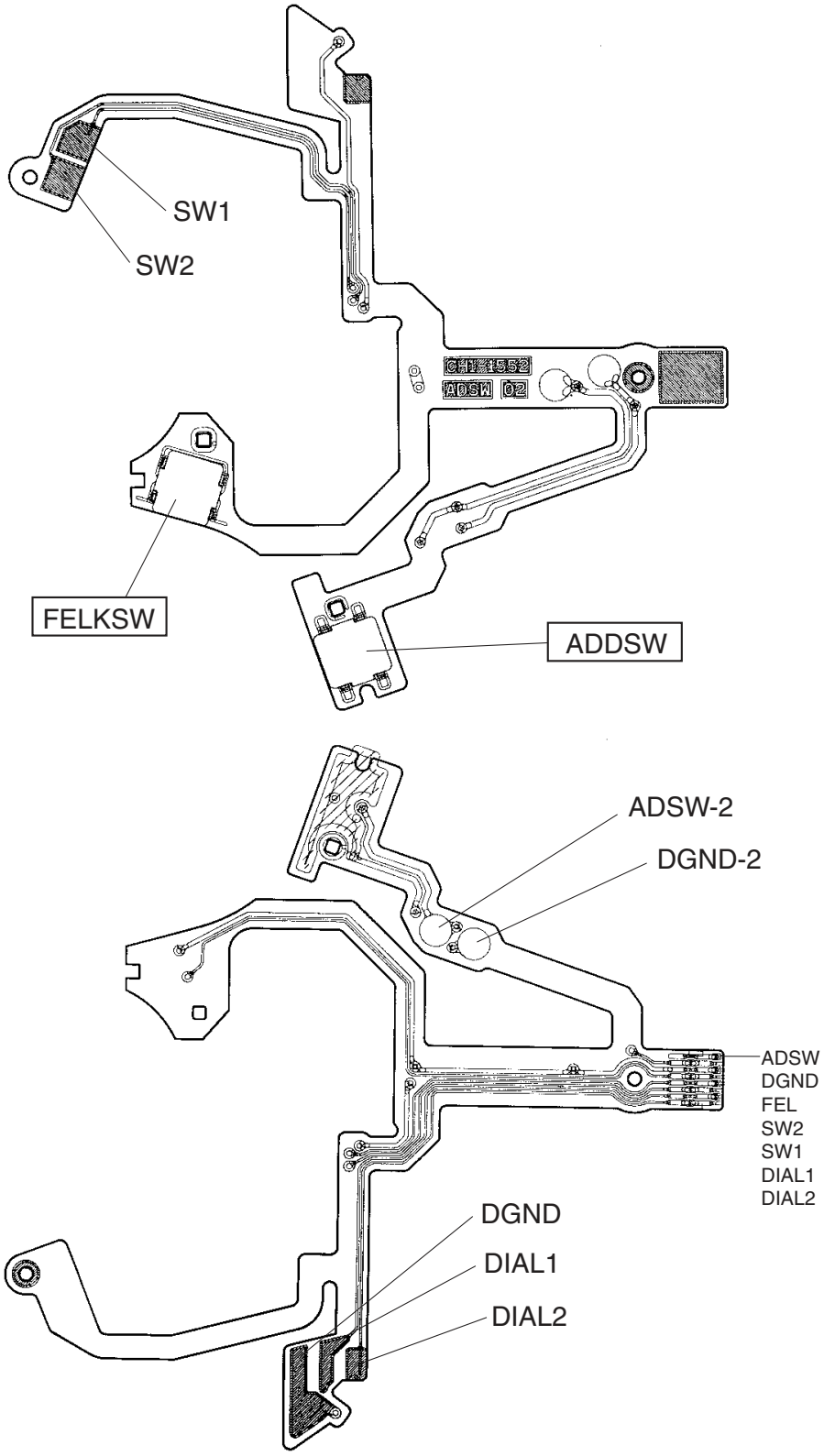
18.ADSW FPC

REF. NO. C12-8401



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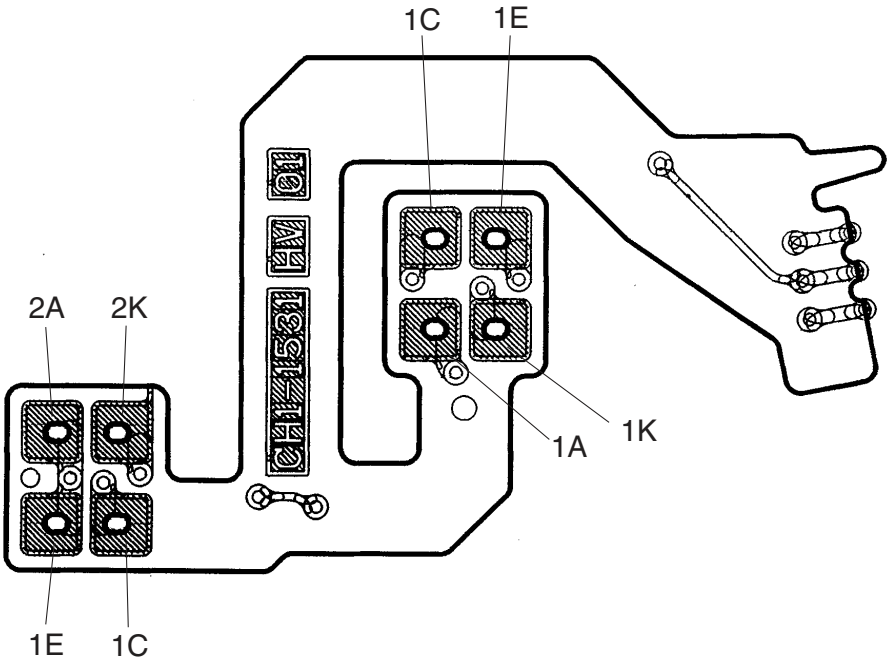

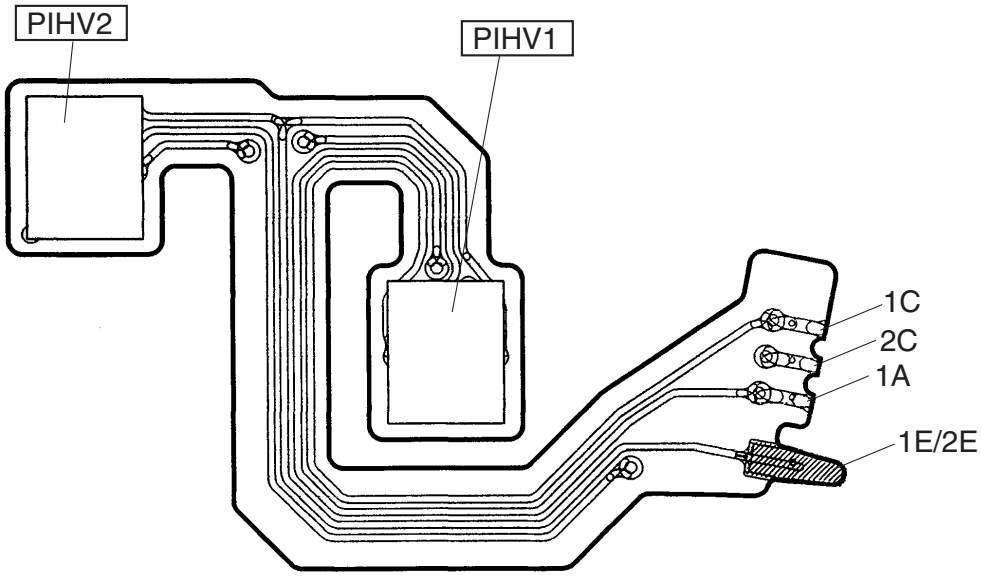

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4. Exposure Control

4-1 Metering modes: TTL metering at the maximum aperture with a 21-zone silicon photocell sensor. The following four metering modes can be selected:

(1) Evaluative (linkable to any focusing point)

(2) Partial
Metering area: Approx. 8.5% of screen.

(3) Center spot metering (CF-13-0, 2)
Metering area: Approx. 2.4% of screen

(4) Focusing point-linked spot metering: CF-13-1 (11 points), CF-13-3 (9 points)
Metering area: Approx. 2.4% of screen, fixed at center during automatic focusing point selection

* For (3) and (4), real-time metering occurs while the shutter button is pressed halfway. During continuous shooting, the same meter reading taken for the first shot is locked (AE lock) for subsequent shots.

(5) Multi-spot metering
For (3) or (4), pressing the FEL button enables up to 8 spot meter readings (when flash is not used).

(6) Centerweighted averaging metering

4-2 AE modes: The following seven AE modes and manual mode can be set:

① Shutter speed-priority AE (Safety shift enabled with CF-16-1)

② Aperture-priority AE (As above)

③ Depth-of-field AE (Non-shiftable)
1) With a manually-selected focusing point: The selected focusing point can be used to set the two DEP points. When a pair of manually-selected focusing points is selected automatically, the focusing point focused at the closer distance is used to set the two DEP points.
2) With an automatically selected focusing point: The center focusing point is used to set the two DEP points.

④ Program AE (Shiftable)

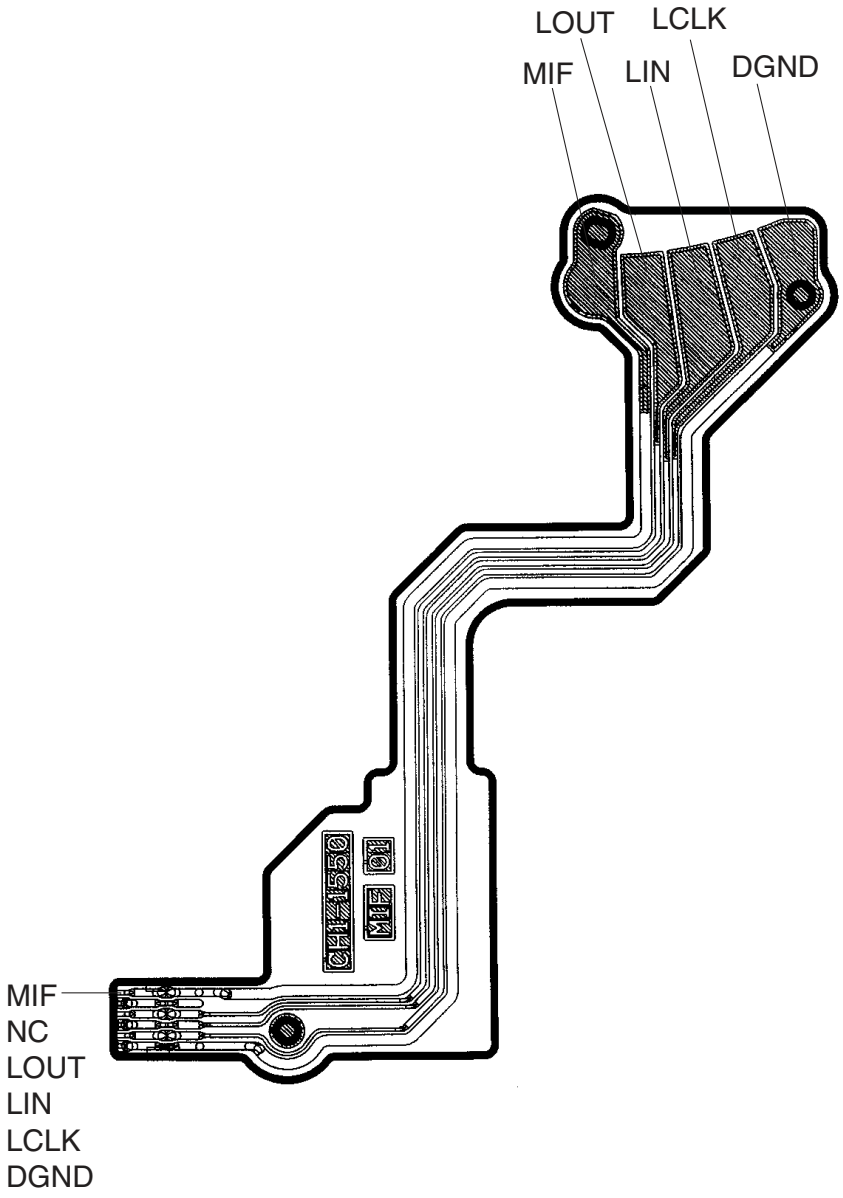
⑤ E-TTL program flash AE (21-segment flash metering)

⑥ A-TTL program flash AE (3-segment flash metering)

⑦ TTL program flash AE (3-segment flash metering)

⑧ Manual exposure
* To set the aperture, the exposure compensation button + Main Dial can be used.

⑨ Bulb



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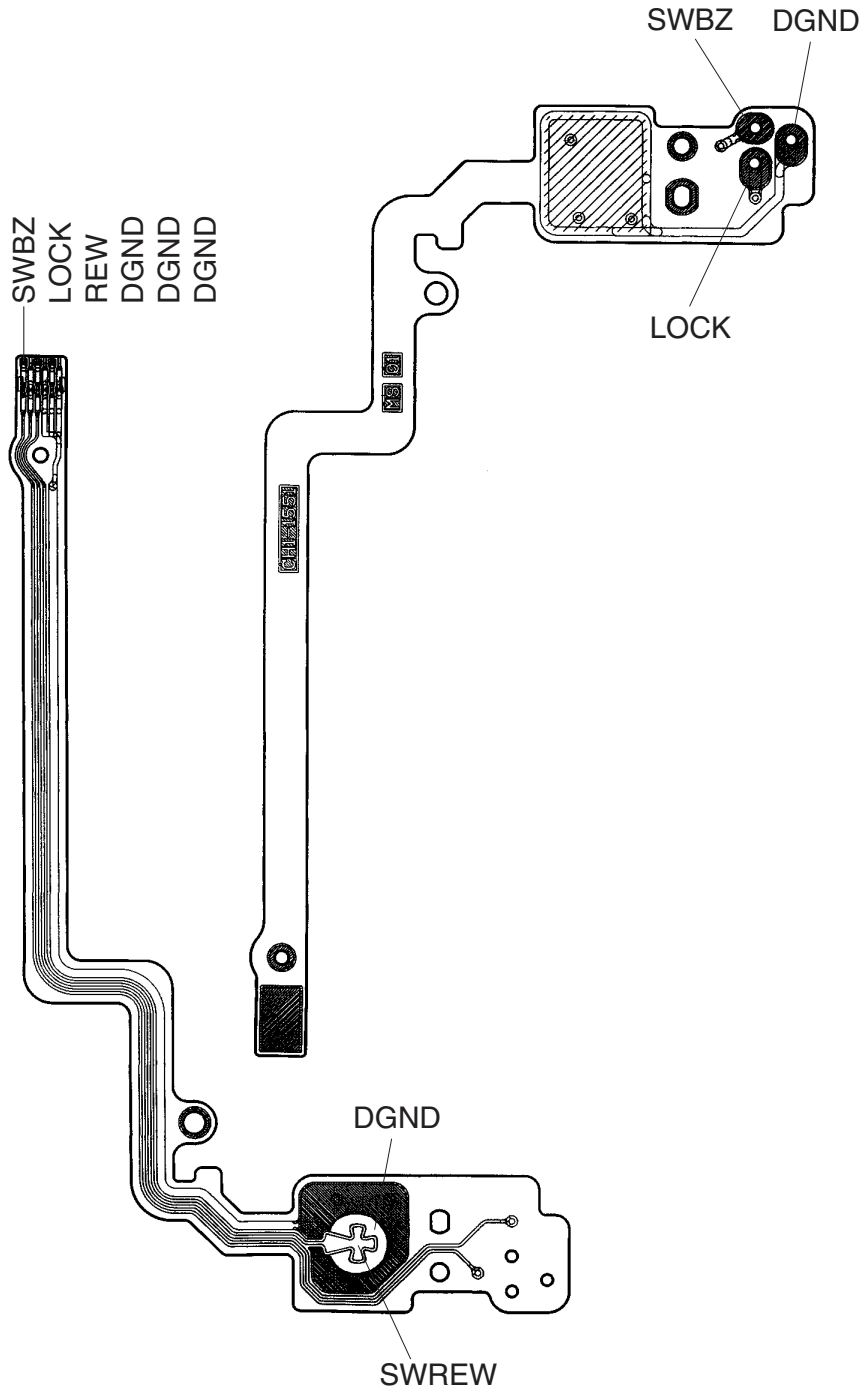

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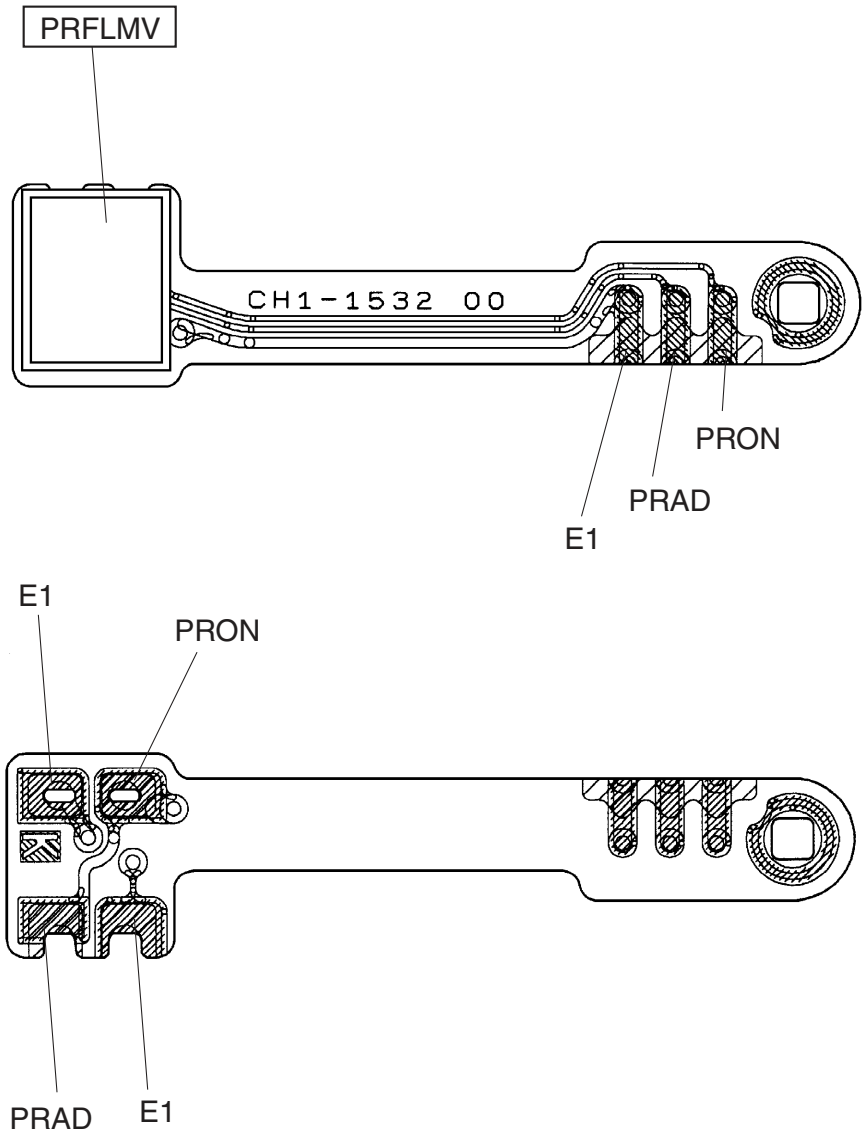

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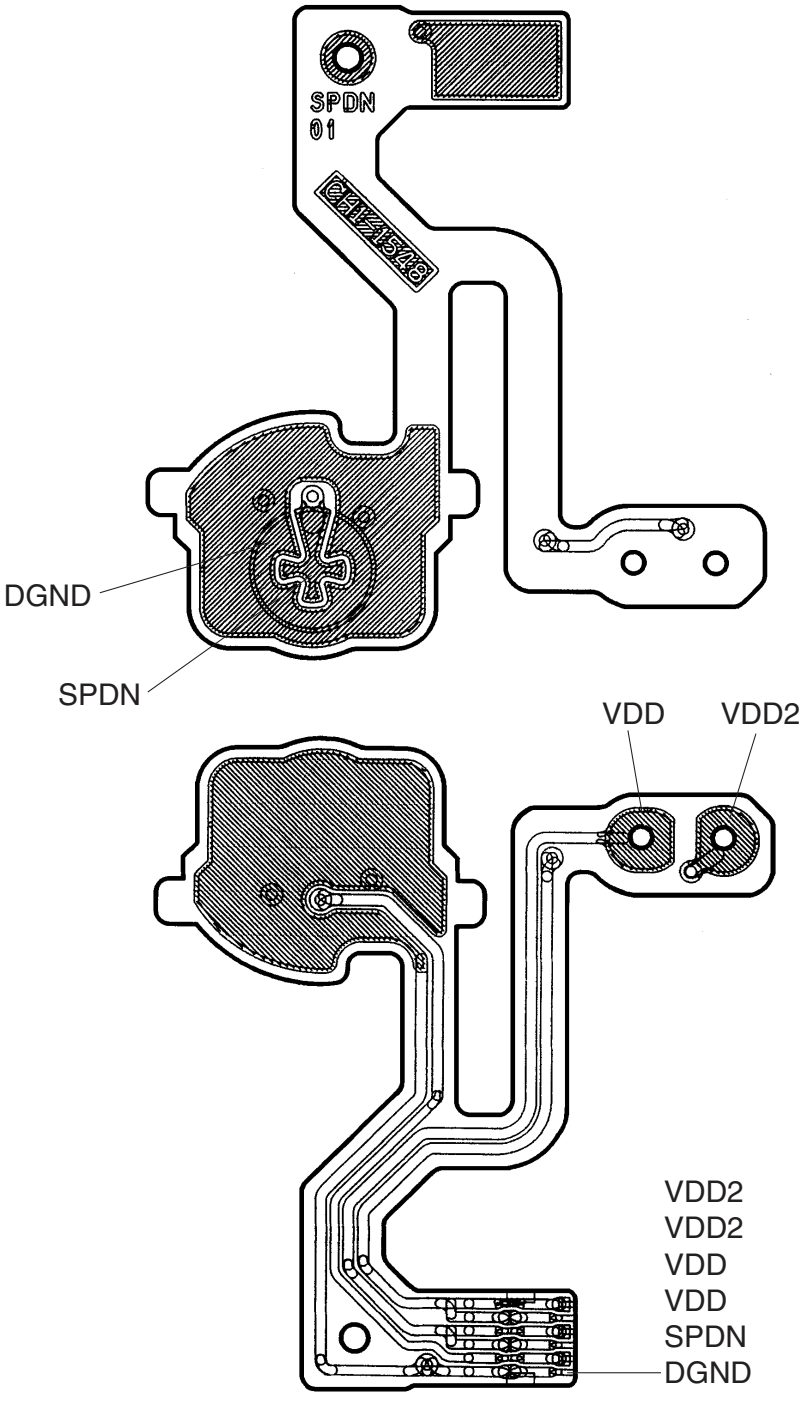

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Part 1

Product Overview

1. OVERVIEW

1.1 PRODUCT OVERVIEW

The EOS LINK SOFTWARE ES-E1 consists of the following two software programs compatible with Windows 98 (Japanese or English version indicated by J/E) and Windows 98/2000 (Japanese, English, or French version indicated by J/E/F), a connecting cable, and a USB driver for the connecting cable.
The instruction manual (in electronic form) and installation manual are provided in Japanese and English (J/E) or Japanese, English, French, German, and Spanish (J/E/F).

1) Two application programs

① EOS-1V Remote (Fig. 1-1) enables EOS-1V customization, shooting data downloading, and other functions.
② EOS-1V Memory (Fig. 1-2) enables the shooting data to be viewed and managed.

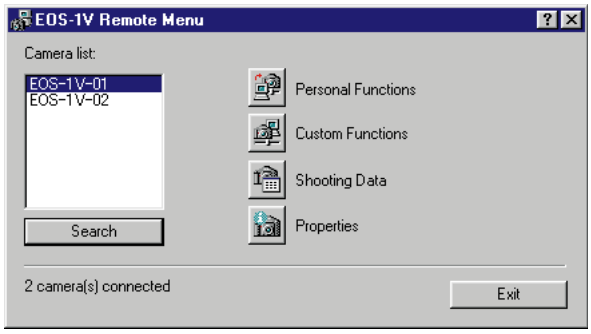


Fig. 1-1 EOS-1V Remote menu.

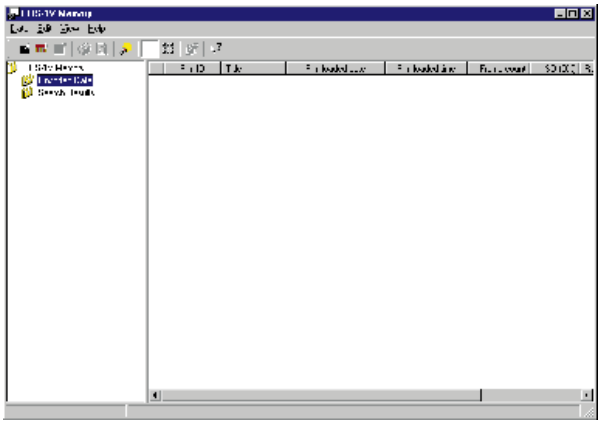


Fig. 1-2 EOS-1V Memory main window.

2) Dedicated connecting cable

The cable connects the EOS-1V's remote control/data transfer terminal to the computer's USB port.

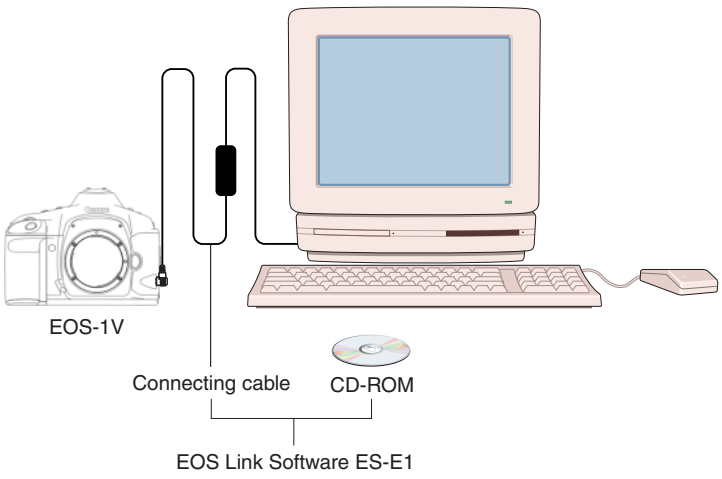


Fig. 1-3 System configuration.

1.2 SOFTWARE OVERVIEW

1) EOS-1V Remote

This program is used for EOS-1V customization, shooting data downloading, selecting the shooting data items to be recorded, setting the film ID, setting the date and time, and other functions.

(1) Customizable functions

Thirty-one P.Fn (Personal Functions) can be set (see Table 1-1). The settings and descriptions are displayed on-screen (Fig. 1-4). The help menu also explains the effects of the Personal Functions. (P.Fn-0 is set with a Custom Function.) The Personal Function settings can be saved in the personal computer and read by the camera later. The Combination dialog box (Fig. 1-5) lists the descriptions of Personal Function settings. (This is also possible for Custom Function settings.)

The Personal Functions set with the EOS Link Software ES-E1 can be enabled or disabled with the EOS-1V individually. However, the P.Fn setting itself cannot be changed with the EOS-1V.

Table 1-1 List of Personal Functions

P.Fn No.	Function
0	Registers custom function groups.
1	Disables unwanted picture-taking mode(s).
2	Disables unwanted metering mode(s).
3	Specifies the metering mode for manual exposure.
4	Sets the maximum and minimum shutter speeds to be used.
5	Sets the maximum and minimum apertures to be used.
6	Registers and switches the picture-taking mode and metering mode.
7	Repeats AEB during continuous shooting.
8	Sets AEB only for the first two frames.
9	Changes the AEB sequence for C.Fn-9-2/3 to overexposure, correct exposure, and underexposure.
10	Retains the program shift amount.
11	Prevents cancellation of multiple exposures.
12	Sets the AI Servo AF's subject-tracking sensitivity.
13	AI Servo AF continuous shooting is executed according to the film advance speed.
14	Disables AF lens driving for focus search.
15	Disables the AF-assist beam from being emitted.
16	Enables the picture to be taken automatically when focus is achieved at the fixed point of focus while the shutter button is pressed completely.
17	Disables automatic focusing point selection.
18	Enables automatic focusing point selection when C.Fn-11-2 has been set.
19	Sets the shooting speed of the various film advance modes for when the Power Drive Booster is attached.
20	Limits the number of frames exposed during continuous shooting.
21	Enables silent (low-speed) film rewind when the shutter button is OFF after picture-taking.
22	Disables the shutter release when film has not been loaded.
23	Changes the function activation timer after the button is pressed to a different time length (6 sec., 16 sec., etc.).
24	Keeps the LCD panel illuminated during bulb exposures.
25	Changes the default settings for when the CLEAR button is ON.
26	Shortens the shutter release time lag.
27	Reverses the rotational function of the electronic dial.
28	Prevents exposure compensation with the Quick Control Dial.
29	Issues a warning when there is enough memory to store shooting data for only a few more rolls of film.
30	Changes the imprinting density of the film ID.

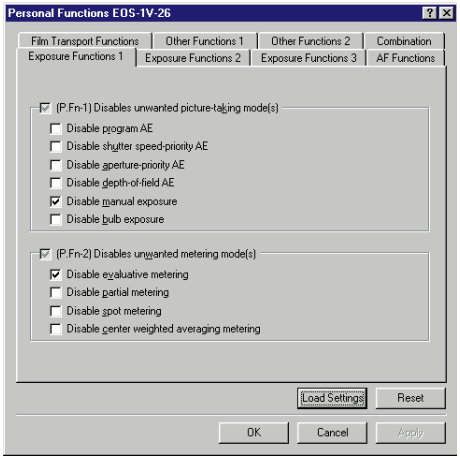


Fig. 1-4 Personal Function setting dialog box.

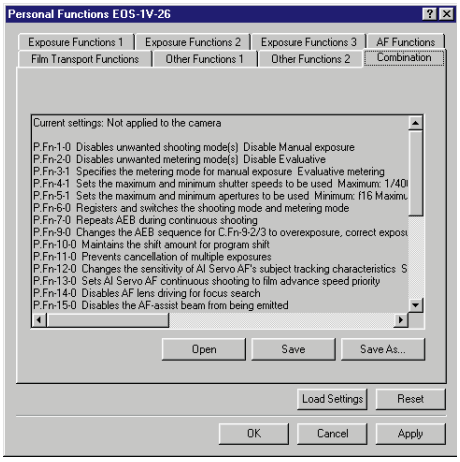

Personal Functions EOS-1V-26
Exposure Functions 1
Exposure Functions 2
Exposure Functions 3
AF Functions
Film Transport Functions
Other Functions 1
Other Functions 2
Combination
Current settings: Not applied to the camera
P.Fn-1-0 Disables unwanted shooting mode(s) Disable Manual exposure
P.Fn-2-0 Disables unwanted metering mode(s) Disable Evaluative
P.Fn-3-1 Specifies the metering mode for manual exposure Evaluative metering
P.Fn-4-1 Sets the maximum and minimum shutter speeds to be used Maximum: 1/40
P.Fn-5-1 Sets the maximum and minimum apertures to be used Minimum: f16 Maxim
P.Fn-6-0 Registers and switches the shooting mode and metering mode
P.Fn-7-0 Repeats AEB during continuous shooting
P.Fn-9-0 Changes the AEB sequence for C.Fn-9-2/3 to overexposure, correct expos
P.Fn-10-0 Maintains the shift amount for program shift
P.Fn-11-0 Prevents cancellation of multiple exposures
P.Fn-12-0 Changes the sensitivity of AI Servo AF's subject tracking characteristics S
P.Fn-13-0 Sets AI Servo AF continuous shooting to film advance speed priority
P.Fn-14-0 Disables AF lens driving for focus search
P.Fn-15-0 Disables the AF-assist beam from being emitted
Open
Save
Save As...
Load Settings
Reset
OK
Cancel
Apply

Fig. 1-5 Combination dialog box.

(2) Custom Functions

Excluding C.Fn-0, you can set 19 Custom Functions. P.Fn-0 is set with the Custom Functiondialog box.

* To prevent its accidental setting which will result in exposure error, EOS Link Software ES-E1 excludes C.Fn-0 from being user-settable.

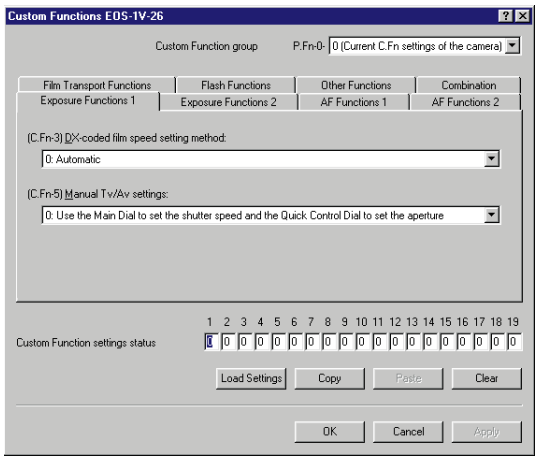

Custom Functions EOS-1V-26
Custom Function group
P.Fn-0: 0 (Current C.Fn settings of the camera)
Film Transport Functions
Flash Functions
Other Functions
Combination
Exposure Functions 1
Exposure Functions 2
AF Functions 1
AF Functions 2
(C.Fn-3) DX-coded film speed setting method:
0: Automatic
(C.Fn-5) Manual Tv/Av settings:
0: Use the Main Dial to set the shutter speed and the Quick Control Dial to set the aperture
Custom Function settings status
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Load Settings
Copy
Paste
Clear
OK
Cancel
Apply

Fig. 1-6 Custom Function dialog box.

(3) Shooting data

The Data Handling dialog box (Fig. 1-7) provides options to download the EOS-1V's shooting data to the computer, delete the shooting data in the EOS-1V, or to start up EOS-1V Memory after the shooting data is downloaded. It also indicates the number of film rolls whose shooting data is stored in the EOS-1V.

The Shooting Data Items to be Recorded dialog box (Fig. 1-8) shows the shooting data items recorded by the camera and the number of film rolls recorded. Table 1-2-2 shows the shooting data items that can be recorded. The user can select which shooting data items are to be recorded by the camera. (This can also be done while film is in the camera.) The number of film rolls whose shooting data can be recorded by the camera will vary depending on the number of shooting data items that are recorded.

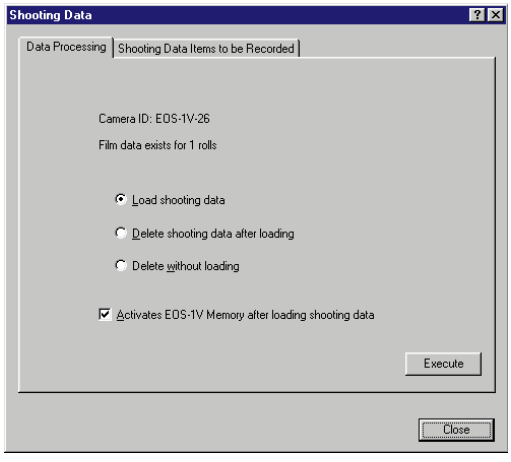


Fig. 1-7 Data Handling dialog box.

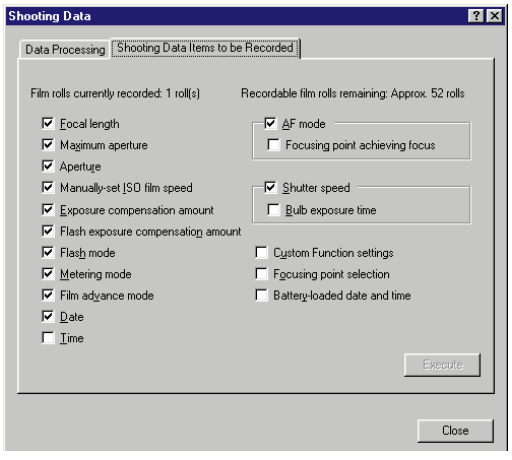


Fig. 1-8 Shooting Data Items to be Recorded dialog box.

Table 1-2 Shooting Data Items

Table 1-2-1 Items recorded by default.

1.	User-settable No. (1)
2.	Film ID No. (2)
3.	Film-loaded date (6)
4.	DX-coded film speed (1)
5.	Frame No. (1)
6.	Picture-taking mode (1)
7	Multiple exposures (1)

Table 1-2-2 Optional items that can be recorded.

1.	Focal length (2)
2.	Lens max. aperture (1)
3.	Shutter speed (1)
4.	Aperture (1)
5.	Manually-set ISO speed (1)
6.	Exposure compensation amount (1)
7.	Flash exposure compensation amount (1)
8.	Flash mode (1)
9.	Metering mode (1)
10.	Film advance mode (1)
11.	AF mode (1)
12.	Bulb exposure time (2)
13.	Date (3)
14.	Time (3)
15.	Custom Function settings (11)
16.	Focusing point selection (1)
17.	Focusing points achieving focus (7)
18.	Battery-loaded date and time (6)

Table 1-3 Correlation between recordable film rolls and bytes recorded.

Total Bytes Recorded	Recordable Film Rolls
0 ~ 4	200
5 ~ 12	100
13 ~ 28	52

The number of bytes required is in parentheses.

* The shaded items in Table 1-2-2 are initially set to be recorded.
* The total number of bytes required by all the items in Table 1-2-2 is 28.
* The total bytes do not include the 12 bytes required by the items in Table 1-2-1.

(4) Properties

The Information dialog box (Fig. 1-9) shows the model name of the EOS-1V currently connected to the computer. If the camera does not contain film, you can enter the user-settable No. and apply it to the camera.

The Date and Time dialog box (Fig. 1-10) is for setting the EOS-1V's date and time. You can either apply the computer's date and time to the camera or enter the date and time manually.

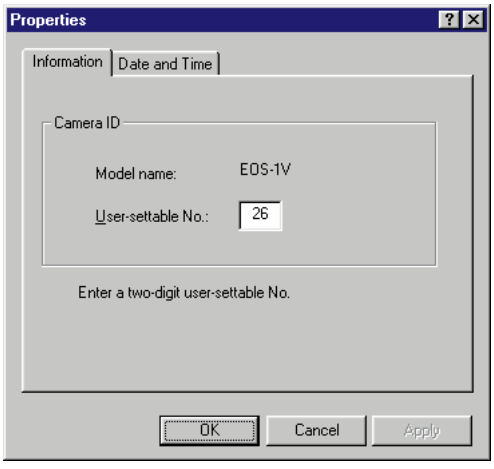


Fig. 1-9 Information dialog box.

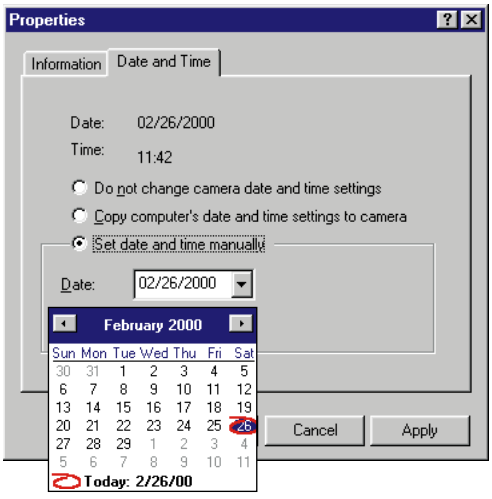


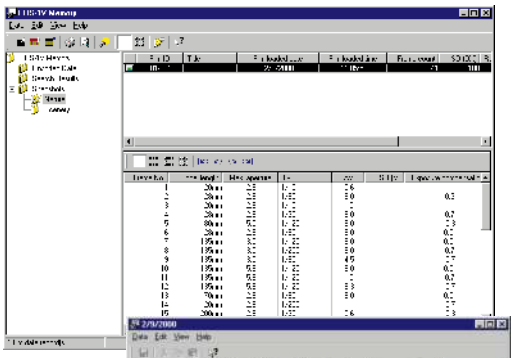
Fig. 1-10 Date and Time dialog box.

2) EOS-1V Memory

EOS-1V Memory enables you to view, edit, and search the shooting data downloaded with EOS-1V Remote. You can also add thumbnail images to the shooting data by using a scanner to input the images. The shooting data can also be exported in CSV (Comma-Separated Values) format (text only) to applications such as Microsoft Excel which support the CSV format. EOS-1V Remote can also start up within EOS-1V Memory to download the shooting data.

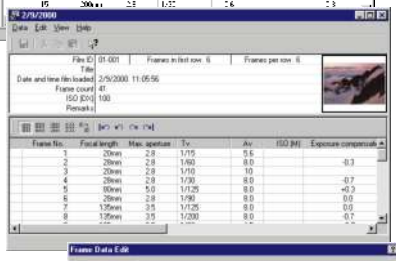
EOS-1V Memory's main screens and their functions are shown below in Fig. 1-11.

Main window



Displayed when EOS-1V Memory starts up.
- View shooting data.
- Create and delete folders.
- Organize shooting data into folders.
- Search for shooting data (Fig. 1-12).
- Create or delete film data.
- Export the shooting data.
- Print the shooting data.

Film data-editing window



Opens from within the main window.
- Edit the film data.
- Create, delete, or update the thumbnails.
- Cut, copy, paste, or delete frame data. Insert new or copied frame data.

Frame data-editing dialog box

Opens from within the main window or film data-editing window.
- Edit the frame data.
- Create thumbnails.

* If it can be resized, it is called a window. If it cannot be resized, it is called a dialog box.

Fig. 1-11 EOS-1V Memory main screens and functions.

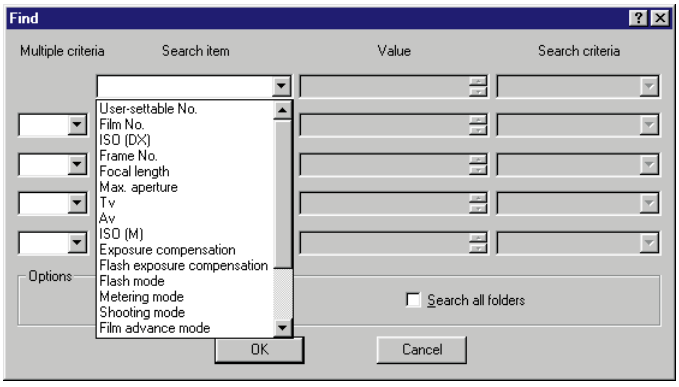


Fig. 1-12 Shooting data search box.

4-3 Metering range: EV 0-20 in all metering modes (at 20°C with 50mm f/1.4 lens, ISO 100)

4-4 Unsuitable exposure warning: Shutter speed or aperture display blinks at 2 Hz.

4-5 Exposure metering: Activated when shutter button is pressed halfway.

* Before shutter release: Metering remains active for 6 sec. after the halfway-depressed shutter button is released.
* After shutter release: Metering remains active for 2 sec. after the halfway-depressed shutter button is released.

4-6 ISO Film Speed Range: Automatically set with DX-coded film at ISO 25-5000 or settable manually at ISO 6-6400. Settable in 1/3-stop increments.

* The manually set ISO film speed and exposure compensation are displayed during film rewind and after film rewind before the film cartridge is removed.
* With non-DX-coded film, the ISO speed set previously will blink to indicate that manual setting of ISO is required.

4-7 Exposure Compensation: (1) AEB: Autoexposure bracketing

* Set by pressing the Shooting mode selector and AF mode button and turning Main Dial. Bracketing amount: Up to ±3 stops in 1/3-stop increments
* The bracketing sequence is correct exposure, underexposure, and overexposure, taken according to the film advance mode.
  If the self-timer is used, the three bracketed shots will be exposed successively after the self-timer delay.

Bracketing method of each shooting mode

Shooting Mode		Bracketing Method	
		Shutter speed	Aperture
1 Shutter speed-priority AE		—	●
2 Aperture-priority AE		●	—
3 Depth-of-field AE		●	—
4 Program AE		●	●
5 Manual	CF-5-0	●	—
	CF-5-1	—	●

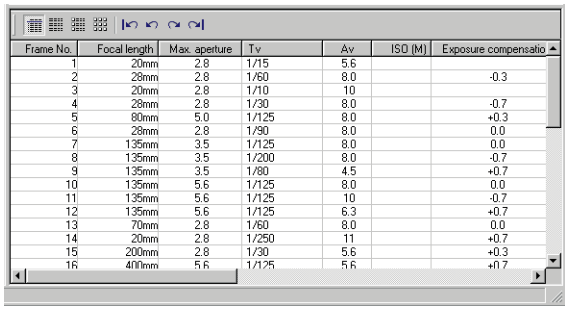
* AEB cancellation
  AEB is canceled with any of the following: 0 bracketing amount, CLEAR, flash ready, bulb, main switch set to L, lens interchange, film loading and initial advance, or rewind.
* If the battery is replaced during AEB, AEB will start from the first shot (correct exposure) again.

(2) Manual exposure compensation

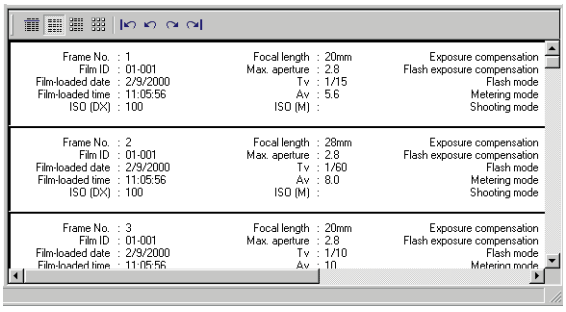
* Turn Quick Control Dial or press exposure compensation button and turn Main Dial. Set up to ±3 stops in 1/3-stop increments.

(3) (1) and (2) above can be set in combination.

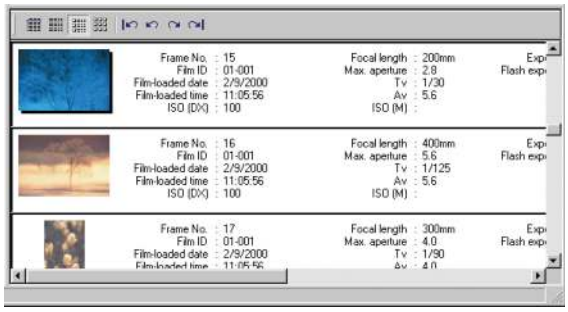
List view



Detailed view (without thumbnails)



Detailed view



Thumbnail view

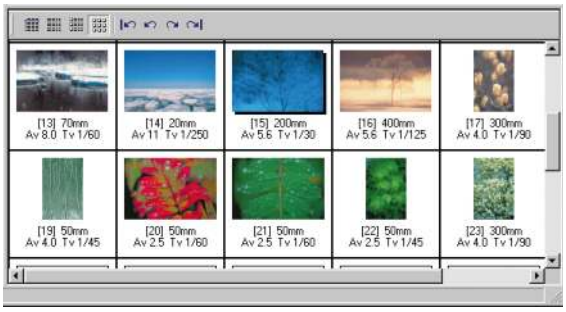
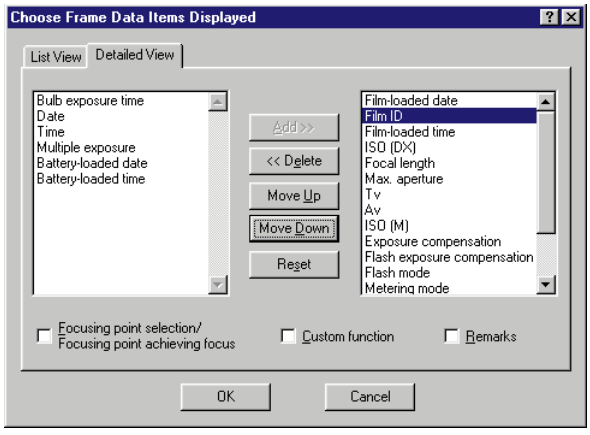


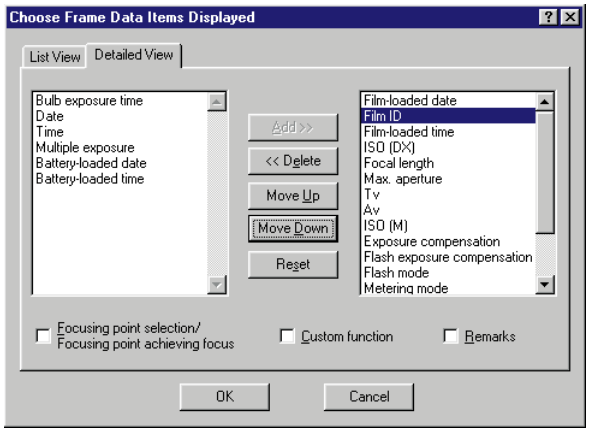
Fig. 1-13 Sample frame data in the main window and film data-editing window.

* Applies to both the main window and film data-editing window.

List view



Detailed view

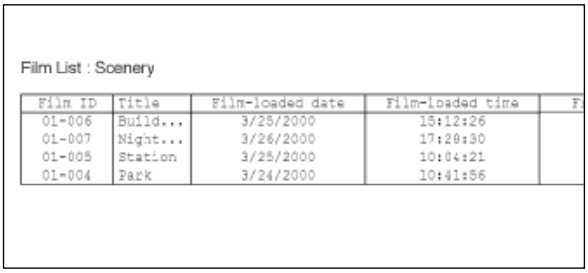


* This applies to the Detailed view with or without thumbnails.

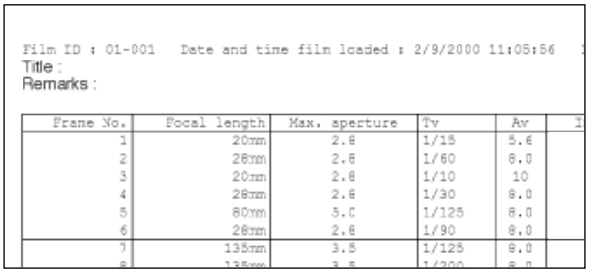
* For the Windows 2000 and later versions, all the frame data items are set to be displayed in the Detailed view by default.

Fig. 1-14 Choose Frame Data Items Displayed dialog box.

Film List


Film List : Scenery
Film ID | Title | Film-loaded date | Film-loaded time
01-006 | Build... | 3/25/2000 | 15:12:26
01-007 | Night... | 3/26/2000 | 17:29:30
01-005 | Station | 3/25/2000 | 10:04:21
01-004 | Park | 3/24/2000 | 10:41:56

Frame List



Frame List with Thumbnails

Film ID : 01-001 Date and time film loaded : 2/9/2000 11:05:56 ISO (DX) : 100
Title :
Remarks :
[1] 20mm Av 5.6 Tv 1/15
[2] 28mm Av 8.0 Tv 1/60
[3] 20mm Av 10 Tv 1/10
[4] 28mm Av 8.0 Tv 1/30

Frame List without Thumbnails

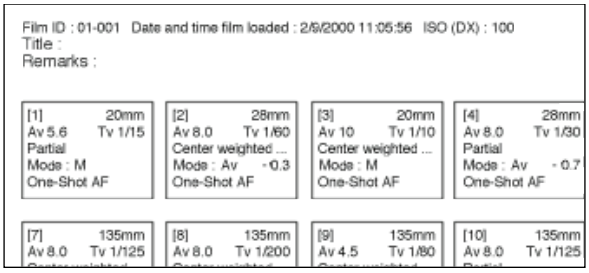

Film ID : 01-001 Date and time film loaded : 2/9/2000 11:05:56 ISO (DX) : 100
Title :
Remarks :
[1] 20mm Av 5.6 Tv 1/15 Partial Mode : M One-Shot AF
[2] 28mm Av 8.0 Tv 1/60 Center weighted ... Mode : Av -0.3 One-Shot AF
[3] 20mm Av 10 Tv 1/10 Center weighted ... Mode : M One-Shot AF
[4] 28mm Av 8.0 Tv 1/30 Partial Mode : Av -0.7 One-Shot AF
[7] 135mm Av 8.0 Tv 1/125
[8] 135mm Av 8.0 Tv 1/200
[9] 135mm Av 4.5 Tv 1/80
[10] 135mm Av 8.0 Tv 1/125

Fig. 1-15 Sample printout of shooting data.

2. FEATURES

1) Customizing EOS-1V

- Thirty-one Personal Functions for further customization.
- The Custom Functions (except C.Fn-0) found in the EOS-1V can be easily set while you can confirm the meaning and effect (with the Help menu) of the Custom Function setting.
- The shooting data items to be recorded by the EOS-1V can be selected.

2) Using the shooting data

- The shooting data recorded automatically by the EOS-1V can be downloaded to a personal computer for data manipulation.
- Data searches can be conducted according to film ID, shooting date, etc.
- Thumbnail images scanned separately can be incorporated in the shooting data.

3) Simple plug-and-play with USB

- Only one dedicated connecting cable is required to connect the EOS-1V to a personal computer.
- After the cable is connected, transmissions with the EOS-1V can be executed immediately.

3. DESIGN SPECIFICATIONS

1. System

1-1 Type:	Computer link system for EOS-1V.
1-2 Components:	CD-ROM and Connecting Cable ES
1-3 CD-ROM contents:	EOS-1V Remote and EOS-1V Memory (application programs) EOS USB Driver (driver software) Electronic manual (PDF) Adobe Acrobat Reader 4.0 (for viewing electronic manual)
1-4 Compatible OS languages:	J/E: Japanese and English J/E/F: Japanese, English, French
1-5 Connection to computer:	Connecting Cable ES (1.5 m) connects the EOS-1V's Remote control/Data transfer terminal to the computer's USB port.

2. Operating Environment

2-1 Computer:	IBM PC/AT-compatible equipped with CD-ROM drive and USB port.
2-2 OS:	Windows 98 Second Edition preinstalled (J/E). * For machines preinstalled with Window 98, upgrading to Service Pack 1 is recommended.) Windows 98 Second Edition/Windows 2000 preinstalled (J/E/F). * For machines preinstalled with Window 98, upgrading to Service Pack 1 is recommended.)
2-3 CPU:	Pentium or higher for J/E. Pentium 133 MHz or higher for J/E/F.
2-4 Required hard disk space:	Minimum 50 MB
2-5 Main memory:	Minimum 48 MB for J/E. Minimum 64 MB for J/E/F.
2-6 Display:	640 x 480 pixels and 256 colors or more.

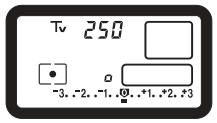
3. EOS-1V Remote

3-1 Personal Functions:	Sets various functions such as exposure, AF, and film transport for the EOS-1V. The settings can be saved in the personal computer.
3-2 Custom Functions:	Nineteen Custom Functions related to exposure, AF, film transport, flash, etc., can be set for the EOS-1V. Custom Function settings can be registered in three groups. Custom Function settings can be saved in the personal computer.
3-3 Shooting data:	The shooting data recorded by the EOS-1V can be downloaded or deleted. EOS-1V Memory can be started within EOS-1V Remote. The shooting data items to be recorded can be selected.
3-4 Properties:	The user-settable No. and date and time can be set for the EOS-1V.

4. EOS-1V Memory	Downloads the shooting data to the personal computer and enables the shooting data to be organized, viewed, edited, searched, printed, or exported in CSV format.

Personal Function (P.Fn) List

Function Type	P.Fn No.	Function	Description	Application	Remarks
Exposure Functions	1	Disables unwanted picture-taking mode(s).	While the picture-taking mode is being selected, the one(s) that are disabled are skipped.	This makes it faster to select the desired picture-taking mode.	• All items cannot be checked. • If P is disabled, pressing the CLEAR button sets the picture-taking mode to P which can then be used. However, P will not be selectable in the normal way.
	2	Disables unwanted metering mode(s).	When the metering mode is being selected, the one(s) that are disabled are skipped.	This makes it faster to select the desired metering mode.	• All items cannot be checked. • If evaluative metering is disabled, pressing the CLEAR button sets the metering mode to evaluative which can then be used. However, evaluative metering cannot be selected in the normal way.
	3	Specifies the metering mode for manual exposure.	The metering mode to be used when the camera is set to manual exposure can be set.	When the manual exposure mode is set, the metering mode selected here will be set. Effective when you want to use a specific metering mode during manual exposure.	• The metering mode button can still be used as a flash exposure compensation button.
	4	Sets the maximum and minimum shutter speeds that can be used.	The settable range of shutter speeds can be set. For example, if the maximum shutter speed is set to 1/2000 and the minimum shutter speed is set to 1/60 sec., the shutter speeds that can be used will be limited to 1/60 to 1/2000 sec.	This is to make shutter speed selection faster. Also effective when you do not want the camera to set a slow sync speed in aperture-priority AE mode with flash.	• To ensure that a proper flash sync speed is set in the program AE mode, the 1/60 sec. - 1/200 sec. range cannot be set. • If safety shift has been set with a Custom Function, it will override the P.Fn-4 setting.
	5	Sets the maximum and minimum apertures that can be used.	The settable range of apertures can be set. For example, if the maximum aperture limit is set to f/1.4 and the minimum aperture limit is set to f/8.0, the apertures that can be used will be limited to f/1.4 to f/8.0.	By limiting the selectable apertures, aperture selection becomes faster.	• If safety shift has been set with a Custom Function, it will override the P.Fn-5 setting. • If the maximum aperture of the attached lens is smaller than the set aperture range's maximum aperture limit, the maximum aperture limit will be set to the lens' maximum aperture. And if the minimum aperture of the attached lens is smaller than the set aperture range's minimum aperture limit, the minimum aperture limit will be set to the lens' minimum aperture.

Exposure Functions	6	Registers and switches the shooting mode and metering mode. LCD panel display immediately after registration. 	● The desired picture-taking mode (except DEP and bulb), exposure settings (shutter speed, aperture, manual exposure setting), metering mode, and exposure compensation amount can be registered as follows: ① Set the desired picture-taking mode and exposure settings. ↓ ② Press the exposure compensation button. ↓ ③ Press the Assist button. ↓ ④ The box displayed on the frame counter indicates that the registration is completed.	This enables the user to instantly switch to the registered settings to suit the front or backlighting conditions.	• Depth-of-field AE and bulb cannot be registered. • If P.Fn-3 has been set and P.Fn-6 is used to register manual exposure together with a metering mode different from the one set with P.Fn-3, the metering mode set with P.Fn-3 will override the one registered with P.Fn-6. • If C.Fn-4-1/3 has been set, pressing the Assist button will start AF/AE. • If a Custom Function like C.Fn-18 is set to enable the Assist button to function by itself, the Custom Function setting will override P.Fn-6. • For the registration procedure, first press the exposure compensation button, then press the Assist button. If the Assist button is pressed first, registration will not occur and it will revert to the P.Fn-6 setting step. • If any item disabled with P.Fn-1, 2, 3, 4, and 5 is set, use the camera to cancel that Personal Function temporarily. Then set P.Fn-6. Afterward when P.Fn-1, 2, 3, 4, or 5 takes effect, items disabled with P.Fn-1, 2, 3, 4, and 5 that have been set with P.Fn-6 will remain effective with P.Fn-6. • The Programmed Image Control mode and metering mode cannot be switched during continuous shooting.
	7	Repeats AEB during continuous shooting.	While the shutter button is held down, AEB repeats during continuous shooting at the current film advance mode.	Effective when you want to repeat AEB during continuous shooting.	
	8	Sets AEB only for the first two frames.	AEB, which normally takes three frames, takes only two frames with this P.Fn.	Effective when the third AEB frame is unnecessary.	• The exposure scale on the LCD panel and in the viewfinder will still display the bracketing amount for three AEB frames.

Exposure Functions	9	Changes the AEB sequence for C.Fn-9-2/3 to overexposure, correct exposure, and underexposure.	The AEB sequence set with C.Fn-9-2/3 (underexposure, correct exposure, overexposure) is changed to overexposure, correct exposure, underexposure.	Effective when you want to start the AEB with an overexposed shot instead of an underexposed one.	• Effective when C.Fn-9-2/3 has been set.
	10	Retains the program shift amount.	The program shift amount can be retained instead of being canceled after the picture is taken. The program shift amount is retained even after the lens is interchanged. For example, when the program is shifted by two stops toward a higher shutter speed, the exposure will shift by two stops toward a faster shutter speed when the lens is interchanged or zoomed.	Effective when you want the standard program to be biased toward the shutter speed or aperture.	The program shift is retained until it is shifted back manually or the battery is replaced or the CLEAR button is pressed.
	11	Prevents cancellation of multiple exposures.	The set number of multiple exposures is taken repeatedly (after the set number of multiple exposures is taken, the frame advances and the set number of multiple exposures is taken again) until the EOS-1V's multiple exposure setting is set to 0.	Effective when you want to repeat the same number of multiple exposures for subsequent frames.	Since the frame counter displays the number of multiple exposures at all times, you cannot see how many exposures are left in the roll while multiple exposures are being taken.
AF Functions	12	Sets the AI Servo AF's subject-tracking sensitivity.	The AF subject-tracking sensitivity during AI Servo AF can be set to one of five levels: Slow, slightly slow, standard, slightly fast, and fast.	At the "Fast" setting, the AF response to the subject's movement is very sensitive. It is effective for fast-moving subjects and for shooting multiple subjects at different distances. The "Slow" setting has a slow response. It is effective when a subject is being focused and an obstruction passes in front of the camera. There is less chance of the focus being thrown off by the obstruction. The AI Servo AF can thereby continue without disruption.	Even at the "Slow" setting, the AI Servo AF mode's subject-tracking performance does not decrease.

AF Functions	13	AI Servo AF continuous shooting is executed according to the film advance speed.	Normally, during continuous shooting when the AF lens drive cannot keep up with the shooting speed, the film advance speed is decreased to give priority to focusing. P.Fn-13 can be set to override the focusing priority and enable the film advance speed to be maintained to allow picture-taking even if focus has not been achieved.	Effective when obtaining an image is more important even if it might be slightly out of focus.	If the AF lens drive can keep up with the film advance speed, focus priority is maintained. However, if it cannot keep up, the film advance speed is given priority.
	14	Disables AF lens driving for focus search.	If the shutter button is pressed halfway and focus cannot be detected, this Personal Function prevents focus search and lens drive occurring throughout the entire focusing range.	When focus has been achieved once and focusing is attempted again only to fail, the subsequent lens driving search results in grossly inaccurate focus. This Personal Function prevents this so that the user does not miss the shot. It is effective with a super telephoto lens since it has difficulty recognizing even the subject outline when the lens is way out of focus.	Since AF does not work when the lens is way out of focus beyond the predictive AF capability, it will be necessary to focus manually until the AF can detect the subject outline.
	15	Disables the AF-assist beam from being emitted.	This prevents the external Speedlite's AF-assist beam from turning on.	At a joint photo session, etc., the AF-assist beam's pattern on the subject may be photographed by someone else's camera.	
	16	Enables the picture to be taken automatically when focus is achieved at the fixed point of focus while the shutter button is pressed completely.	● The focus is first set manually at a fixed point. When the shutter button is held down completely and the subject comes into focus, the picture is taken automatically. (Any of the 45 focusing points can be selected. Automatic focusing point selection selects the center focusing point.) The exposure is set at the moment of exposure.	Effective for unmanned, automated picture-taking.	• Without the Power Drive Booster attached and with a new battery, the camera can wait for the subject for up to about 7 hours. • Using the Remote Switch is recommended. • In the single-frame film advance mode, a picture is taken each time focus is achieved. In the continuous shooting mode, when focus is achieved once, the picture will be taken continuously until the film runs out. Therefore, limiting the number of continuous frames with P.Fn-20 is recommended. • When a Speedlite is used with continuous shooting, the shooting will continue even if the Speedlite cannot keep up.

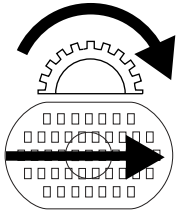
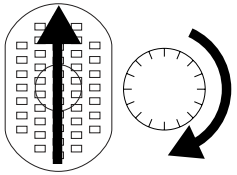
AF Functions	17	Disables automatic focusing point selection.	During manual focusing point selection, this prevents automatic focusing point selection from being set when the user tries to select a focusing point beyond a peripheral focusing point.	This prevents the camera from switching to automatic focusing point selection at an inconvenient time. Since the focusing point selection stops at the periphery, it makes it faster to select a peripheral focusing point.	• During picture-taking with C.Fn-11-2, pressing the focusing point selector enables automatic focusing point selection. • If automatic focusing point selection is registered before P.Fn-17 is set, pressing the Assist button and focusing point selector enables automatic focusing point selection.
	18	Enables automatic focusing point selection when C.Fn-11-2 has been set.	With C.Fn-11-2, normally you use the Quick Control Dial alone to select the focusing point. When the selection stops at a peripheral focusing point, automatic focusing point selection does not take effect. However, the horizontal focusing points at the center can be selected and automatic focusing point selection can be used as well.	Effective when you want to use automatic focusing point selection while C.Fn-11-2 has been set.	• If P.Fn-17 is also set, P.Fn-17 will override P.Fn-18 and automatic focusing point selection will be disabled.
Film Transport Functions	19	Sets the shooting speed of the film advance modes for when the Power Drive Booster is attached.	The maximum shooting speed can be set within the following ranges. Depending on the power source and AF mode, the continuous shooting speed you set might not be attained. Ultra-high continuous shooting: 8 - 10 fps High-speed continuous shooting: 4 - 7 fps Low-speed continuous shooting: 1 - 3 fps This setting cannot be altered with the EOS-1V alone.	Effective when you want to attain more stable AI Servo AF continuous shooting or when you set the continuous shooting speed to suit the subject's speed. It is also effective if you want to set it to the same continuous shooting speed as the EOS-1N.	
	20	Limits the number of frames exposed during continuous shooting.	This enables you to set the maximum number of frames (1 - 36) to be exposed during a single burst of continuous shooting.	Effective when you do not want to photograph an unwanted scene that follows.	

Film Transport Functions	21	Enables silent (low-speed) film rewind when the shutter button is OFF after picture-taking.	When the EOS-1V without the Power Drive Booster is set for single-frame shooting, releasing the shutter button from the fully depressed position advances the film silently at low speed.	This is useful when the film advance noise after taking a picture would be disturbing.	• The shutter is actually cocked at low speed to make it quiet. (The film advance operation itself remains the same.) • With the Power Drive Booster and single-frame shooting mode, releasing the shutter button from the fully depressed position to the halfway position advances the film and cocks the shutter normally. • During continuous shooting, normal film advance is used. • If C.Fn-12 is also set for mirror lockup, the camera noise can be further reduced.
	22	Disables the shutter release when film has not been loaded.	If film has not been loaded and the camera back is closed, pressing the shutter button will have the film cartridge icon and P.Fn-22 indicator blink on the LCD panel to warn that shutter release has been disabled since no film has been loaded. The P.Fn-22 indicator will also be displayed in the viewfinder.	This prevents the user from trying to take pictures without having film loaded.	• The shutter button can work while the camera back is open. In this case, the shutter speed will be fixed at 1/8000 sec.
Other Functions & Operations	23	The function activation timer can be changed to a different time length (6 sec., 16 sec., etc.).	The activation time can be changed anywhere from 0 to 3600 sec. (60 min.) for the following buttons: ① Shutter button halfway position and AE lock button (standard activation time: 6 sec.). ② FE lock button (standard activation time: 16 sec.). ③ Shutter button fully depressed position (standard activation time: 2 sec.).	The user's preferred activation time after pressing the button can be set. Also, setting the activation time to 0 sec. conserves battery power. In the case of ③, metering remains active for 2 sec. after the shutter button is pressed completely. This enables AE lock or FE lock to remain active.	• If the activation time is long, more battery power will be required and fewer rolls of film can be shot with the battery. • The function activation can be turned off by pressing the MODE button, AF button, or metering mode button.
	24	Keeps the LCD panel illumination turned on during bulb exposures.	After the bulb exposure starts, pressing the LCD panel illumination button turns on the illumination until the bulb exposure ends.	Effective when you want to monitor the elapsed bulb exposure time. Normally, the LCD panel illumination turns off when the bulb exposure starts.	Since this will consume more battery power, the bulb exposure time cannot be as long or fewer rolls of film can be shot with the battery.
	25	Sets the default settings when the CLEAR button is ON.	This sets the picture-taking mode, metering mode, film advance mode, AF mode, and focusing point selection (center focusing point or automatic selection).	When the often-used settings are set, just pressing the CLEAR button can call up those settings.	

4-8 AE Lock	(1) Auto AE lock In the One-Shot AF mode with evaluative metering, AE lock is set when focus is achieved. (2) Manual AE lock Set with the AE lock button (resets when pressed again). Enabled in all metering modes. * AE lock cancels when any of the following occurs: The metering turns off, main switch is set to L, a mode button (CLEAR, REW, Custom Function, etc.) is pressed. * When a Speedlite is used and it is charged and ready, the AE lock button will not function.
4-9 Multiple exposures:	Maximum 9 multiple exposures per frame. (Cancelable and resettable at any time.) Cancels automatically after all the multiple exposures are taken. Multiple exposures during continuous shooting enabled (exposure shift less than 0.1 mm).

5. Shutter

5-1 Type:	Vertical-travel, focal-plane shutter with all speeds electronically-controlled. * Front and rear shutter curtains both have dedicated rotary magnet control. (Curtain speed: 2.2 ms/24mm)
5-2 Shutter speeds:	30 to 1/8000 sec., X-sync at 1/250 sec. In the shutter speed-priority AE and manual exposure modes, shutter speeds in 1/3-stop increments can be set. ◆For bulb exposures, the exposure time is displayed on the LCD panel from 1 - 23 hours and 00:00 - 59:59 min. and sec. (LCD panel shows three bars for every 30 min. up to 120 min.)
5-3 Shutter release:	Soft-touch electromagnetic release (no cable release socket)
5-4 Release time lag:	Shutter release time lag for stopping down three stops from the maximum aperture (excludes AF operation time): (1) Time lag from SW-1 ON to SW-2 ON and film exposure: 55 ms (2) Time lag from SW-1 and SW-2 to film exposure: 191 ms
5-5 Self-timer:	10- or 2-sec. delay. * Self-timer in progress is cancelable by turning the main switch to L. * Self-timer operation indicated by self-timer lamp (2 Hz for the first 8 sec., then 8 Hz for the remaining two sec.) Self-timer countdown displayed on frame counter.
5-6 Camera shake warning:	None

Other Functions & Operations	26	Shortens the shutter release time lag.	Normally, after focus is achieved and the shutter button is pressed completely, the shutter release time lag is fixed at 55 ms. This is the time it takes for the aperture to stop down by 3 stops. However, when the aperture stops down by fewer than 3 stops, the shutter release time lag can be shortened by as much as about 20 percent.	This increases the chances of capturing the decisive moment.	Since the difference will only be 10 milliseconds, you might not be able to sense the difference.
	27	Enables the electronic dial's function to be used in the reverse direction.	This reverses the electronic dial's setting (rotation) direction. The sequence for selecting a focusing point and setting the shutter speed or aperture will be reversed when the dial is turned. This can be set individually for the Main Dial and Quick Control Dial. Even if the Main Dial's rotation function is reversed, the rotation direction for selecting a focusing point remains the same. 	With C.Fn-11-2 set and the Power Drive Booster attached during vertical shooting, selecting the focusing point with the Quick Control Dial might not match the dial's rotation direction (the same goes for the exposure level movement). This Personal Function remedies this.  Rotation direction during vertical shooting with P.Fn-27 not set.	
	28	Prevents exposure compensation with the Quick Control Dial.	Setting exposure compensation with the Quick Control Dial is disabled.	This prevents exposure compensation from being set accidentally while the focusing point is being selected.	
	29	Issues a warning when there is enough memory to store shooting data for only a few more rolls of film.	This can be set to 1 to 20 rolls of film. When the remaining memory capacity can store the shooting data only for this number of rolls, the communications icon blinks on the LCD panel as a warning.	This prevents previous shooting data from being overwritten when the memory capacity becomes full.	
	30	Changes the imprinting density of the film ID.	The film ID imprinting can be made darker or lighter by about one stop.	This is effective when you want to match the imprinting density with the film type.	

4. COMPARISON WITH COMPETING PRODUCTS

Table 1-4

(Shaded items indicate the EOS Link Software ES-E1 specifications superior to Nikon's AC-1WJ/1MJ.)

Maker		Canon	Nikon	Nikon	MINOLTA
Product		EOS Link Software ES-E1	AC-2WJ	AC-1WJ / 1MJ	DM-9
Picture-taking Items	User-settable No.	●	---	---	●
	Film ID No.	●	---	---	●
	Film-loaded date	●	---	---	---
	DX-coded film speed	●	---	---	●
	Frame No.	●	●	---	---
	Picture-taking mode	●	●	●	●
	Max. aperture of lens	●	●	●	●
	Shutter speed used	●	●	●	●
	Aperture used	●	●	●	●
	Manually-set ISO speed	●	---	---	---
	Exposure compensation amount	●	●	●	●
	Flash exposure compensation amount	●	●	---	●
	Flash mode	●	●	●	●
	Metering mode	●	●	●	●
	Focal length used	●	●	●	●
	Film advance mode	●	---	---	●
	AF mode	●	---	---	●
	Bulb exposure time	●	---	---	---
	Date of picture	●	---	●	●
	Time of picture	●	---	●	●
	Custom Function settings	●	---	---	---
	Focusing point selection	●	---	---	●
	Multiple exposures	●	●	---	---
	Active focusing point	●	---	---	---
	Battery-loaded date	●	---	---	---
File Format		Canon format	Nikon format	Nikon format	---
Save Formats		2 formats	2 formats	2 formats	---
Display Format (Thumbnails provided/not provided)		●/●	●/●	●/●	---
Data-Editing Feature		●	●	●	---
Data Search Feature		●	●	●	---
Compatible Image Formats		BMP, JPEG, TIFF	BMP	BMP	---
Remote Control Functions		---	●	●	---
Customization	Custom Functions	19	22	24	---
	Personal Functions	31	---	---	---

Maker		Canon	Nikon	Nikon	MINOLTA
Compatible Computers		PC/AT-compatible	PC/AT-compatible	PC/AT-compatible	---
		---	---	Macintosh	---
Compatible OS	Windows	J/E: 98 J/E/F: 98/2000	95, 98, NT4.0	95	---
	Mac OS	---	---	7.1~7.6	---
Compatible Cable		Dedicated transmission cable	Dedicated transmission cable	Dedicated transmission cable	---
Camera Terminal		Remote control / Data transfer terminal	10-pin terminal	10-pin terminal	---
Computer Terminal	PC/AT-compatible	USB port	Serial port	Serial port	---
	Macintosh	---	Serial port	Serial port	---
Shooting Data Capacity* (36-ex. rolls)		Approx. 52 - 200 rolls	70	78	400
Price in Japan		---	Software: 22,000 yen Cable: 12,000 yen	Software: 45,000 yen Cable: 12,000 yen	68,000 yen
Marketing Date		---	1999/**	1998/**	1998/**
Remarks			Only the Windows version is available.	The Windows and Macintosh versions are sold separately.	• Smart Media is used as the storage media. • The data is viewed with the camera's LCD panel. • The data can be printed out by the service center.

* The shooting data capacity depends on the number of exposures on the roll and the number of data items recorded.

Part 3

Repair Information

1. BEFORE YOU START

1.1 To Ensure Proper Repairs

(1) Before disassembly, note how the covers and cables are arranged.

(2) After completing the repair, connect it to the EOS-1V for test transmissions and check the operation.

(3) If the connecting cable for servicing is not available, use the commercially-available connecting cable.

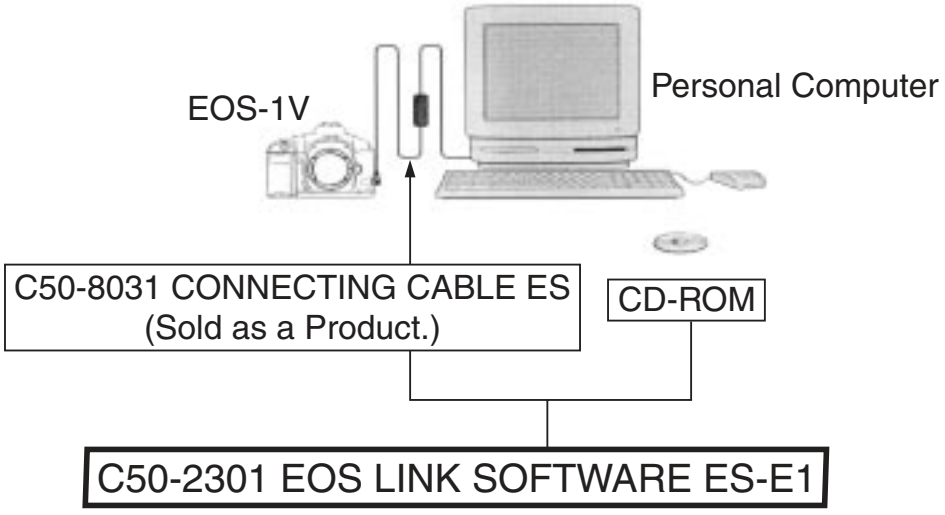


Fig. 3-1 Product configuration.

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2. DISASSEMBLY & REASSEMBLY

2.1 CONNECTING CABLE DISASSEMBLY

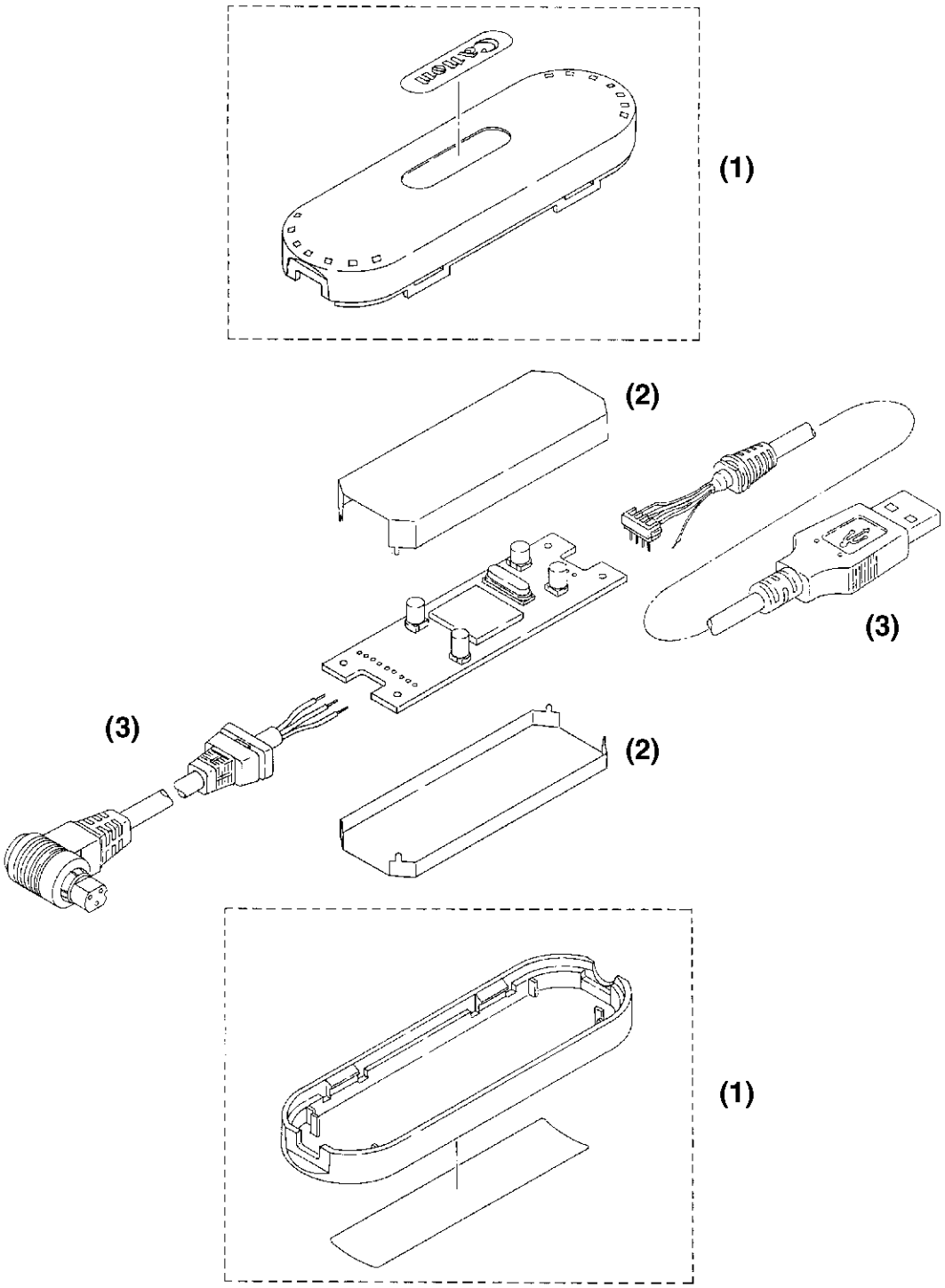

Fig. 3-2 Connecting Cable disassembly.

<DISASSEMBLY PROCEDURE>

(1) Remove the top and bottom covers.
- The covers are held together by hook lugs. Insert a blade screwdriver into the gap between the covers and pry them apart. Note that one of the covers will have to be replaced as a result.

(2) Remove the top and bottom shield cases.
- Remove the soldered parts at the four corners.

(3) Remove the two cables at the soldered ends.
- On the USB side of the cable, remove the connector at the four soldered points.
- On the three-pin connector side of the cable, unsolder the three lead wires.

<REASSEMBLY CAUTIONS>

1. Check for any problems with the soldered places.
2. Make sure the stickers are affixed in the proper direction on the top and bottom covers with regard to the three-pin connector. (When you look at the sticker right side up, the three-pin connector must be on the right side of the sticker.)

Three-pin connector on the right→

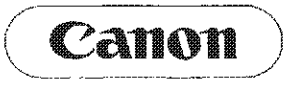

Fig. 3-3 Canon logo sticker.

Three-pin connector on the right→

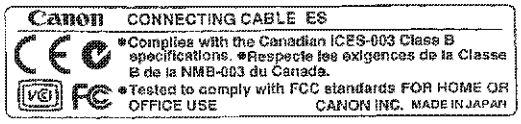
Canon CONNECTING CABLE ES
•Complies with the Canadian ICES-003 Class B specifications. •Respecte lee exigences de la Classe B de la NMB-003 du Canada.
•Tested to comply with FCC standards FOR HOME OR OFFICE USE
CANON INC. MADE IN JAPAN

Fig. 3-4 Notice label.

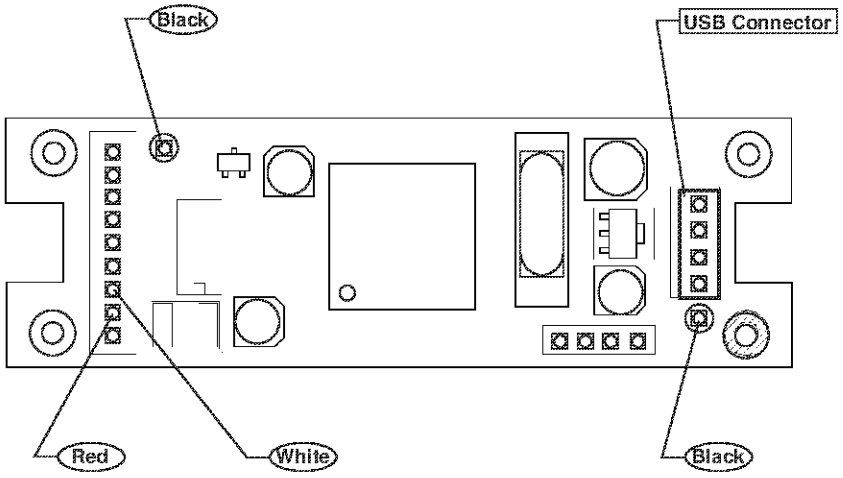

Fig. 3-5 Main board and lead wires.

Part 5

Parts Catalog

Canon

EOS LINK SOFTWARE ES-E1 REF.NO. C50-2301
(CONNECTING CABLE ES REF.NO. C50-8031)

PARTS CATALOG

6. Film Transport

6-1 Film loading and initial film advance: Autoloading with a sprocketless system. After the film leader is set properly and the back is closed, the film advances to frame 1 automatically (taking about 1 sec.). If the main switch is set to L, the film does not advance to frame 1.

6-2 Film advance system: Automatic film advance with a small coreless motor dedicated to film transport. Film perforation detected with an infrared photo reflector.

6-3 Infrared film compatibility: Compatible.

6-4 Film advance start: Starts with the exposure completed signal

6-5 Film transport confirmation: Confirmable with LCD panel bars and frame counter (on lower right in viewfinder)

6-6 Film advance modes and speed: (1) See table below for continuous shooting at 1/250 sec. or faster shutter speeds:

L: Low-speed H: High-speed H‘: Ultra-high speed Approx. fps

Configuration	Power Source	Film Advance Mode	One Shot AF/Manual	AI Servo AF
EOS-1V	2CR5	L	3.5	3
w/BP-E1	LR6/FR6	L		
w/PB-E2	NP-E2	H‘	10	9
		H	7	7
		L	3	3
	LR6/FR6	H	6	5
		L	3	3
w/PDB-E1	LR6/FR6/ Ni-Cd Pack E1	H	6	5
		L	3	3

(2) Single-frame shooting: Single frame advances at the same speed as during continuous shooting.

6-7 Shooting capacity: Indicated by the table below with a new battery and EF 50mm f/1.4 lens.

24-ex. rolls (36-ex. rolls)

Configuration	Power Source	Ambient Temperature	
		At 20°C	At -20°C
EOS-1V	2CR5 × 1	75 (50)	18 (12)
w/BP-E1	2CR5 × 1	75 (50)	18 (12)
	LR6 × 4	60 (40)	0 (0)
	KR15/51 × 4	20 (14)	15 (10)
w/PB-E2	LR6 × 8	125 (85)	7 (5)
	FR6 × 8	180 (120)	75 (50)
	KR15/51 × 8	50 (35)	36 (24)
	NP-E2	100 (70)	30 (20)
w/PDB-E1	LR6 × 8	120 (85)	7 (5)
	FR6 × 8	180 (120)	75 (50)
	KR15/51 × 8	50 (35)	35 (24)
	Ni-Cd Pack E1	65 (45)	45 (30)

When an AA nickel-hydrogen storage battery (Ni-MH) is used, the level is the same as when an AA Ni-Cd battery (KR15/51) is used.

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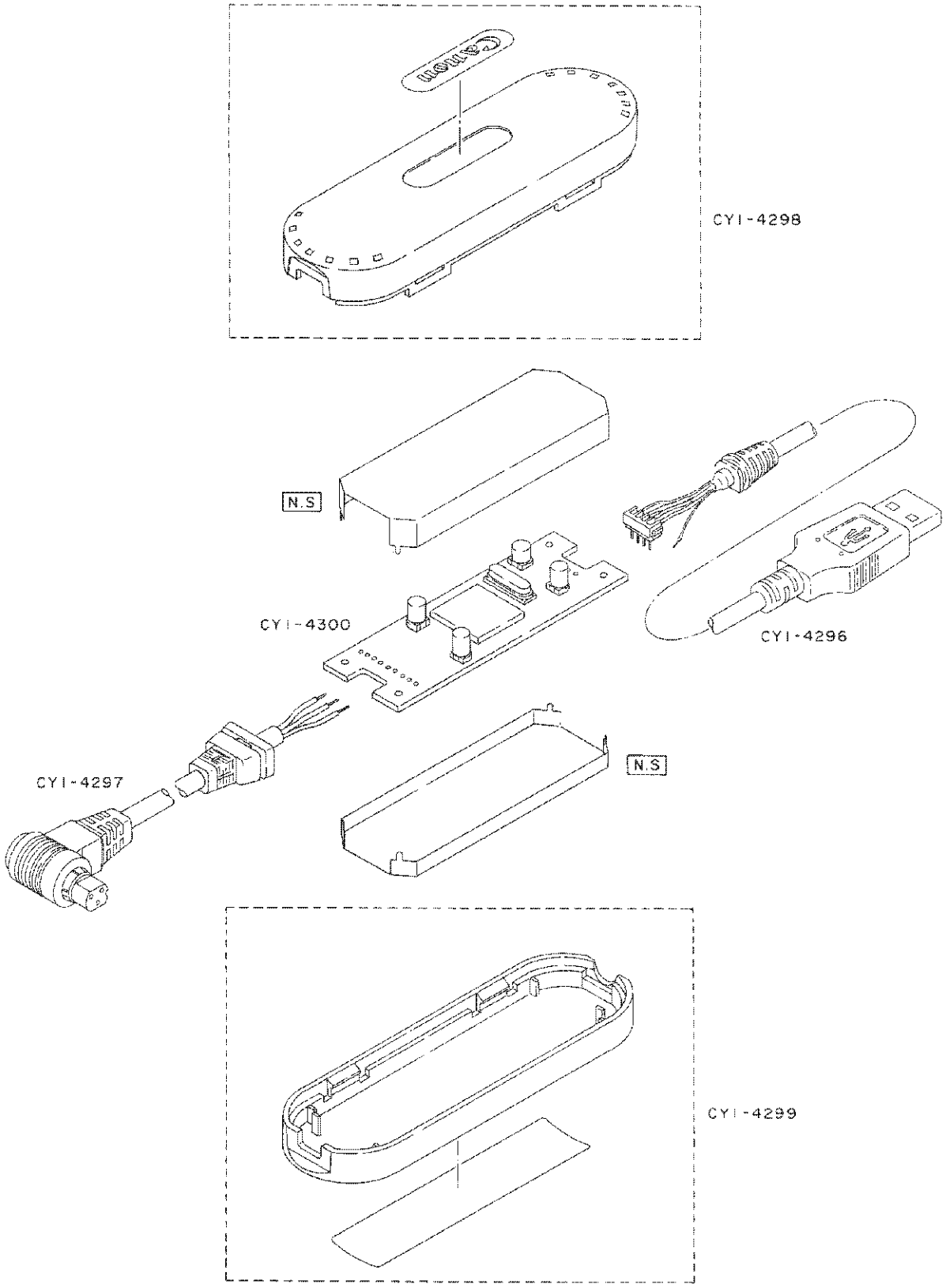
1

CANON EOS LINK SOFTWARE ES-E1

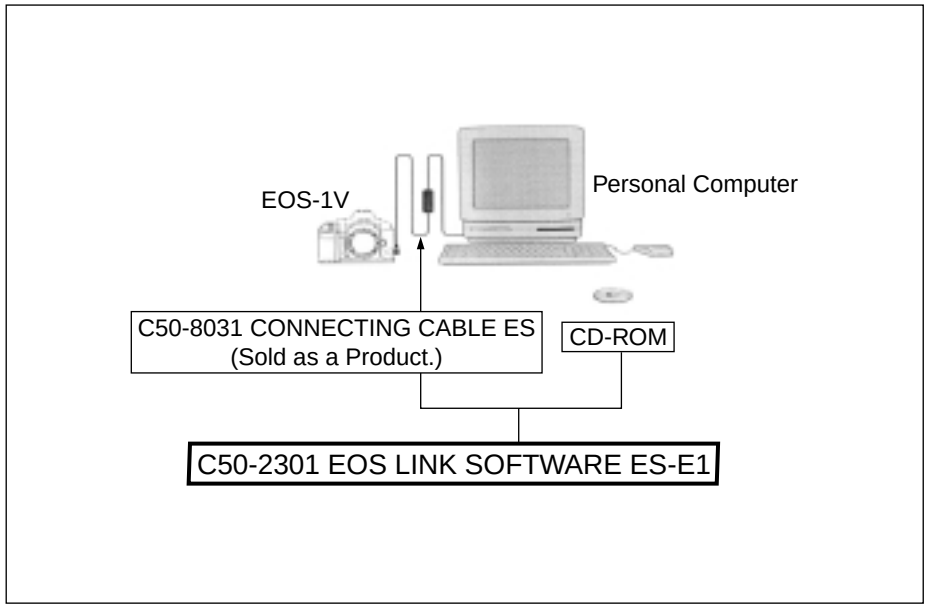
(CONNECTING CABLE ES)



PARTS LIST

REF.NO. C50-2301

NEW	PARTS NO.	CLASS	QTY	DESCRIPTION
*	CY1-4296-000	D	1	INTERFACE CABLE ASS'Y (USB)
*	CY1-4297-000	D	1	INTERFACE CABLE ASS'Y (3P PLUG)
*	CY1-4298-000	D	1	CASE, UPPER
*	CY1-4299-000	D	1	CASE, LOWER
*	CY1-4300-000	D	1	PCB ASS'Y, MAIN (ES-E1)



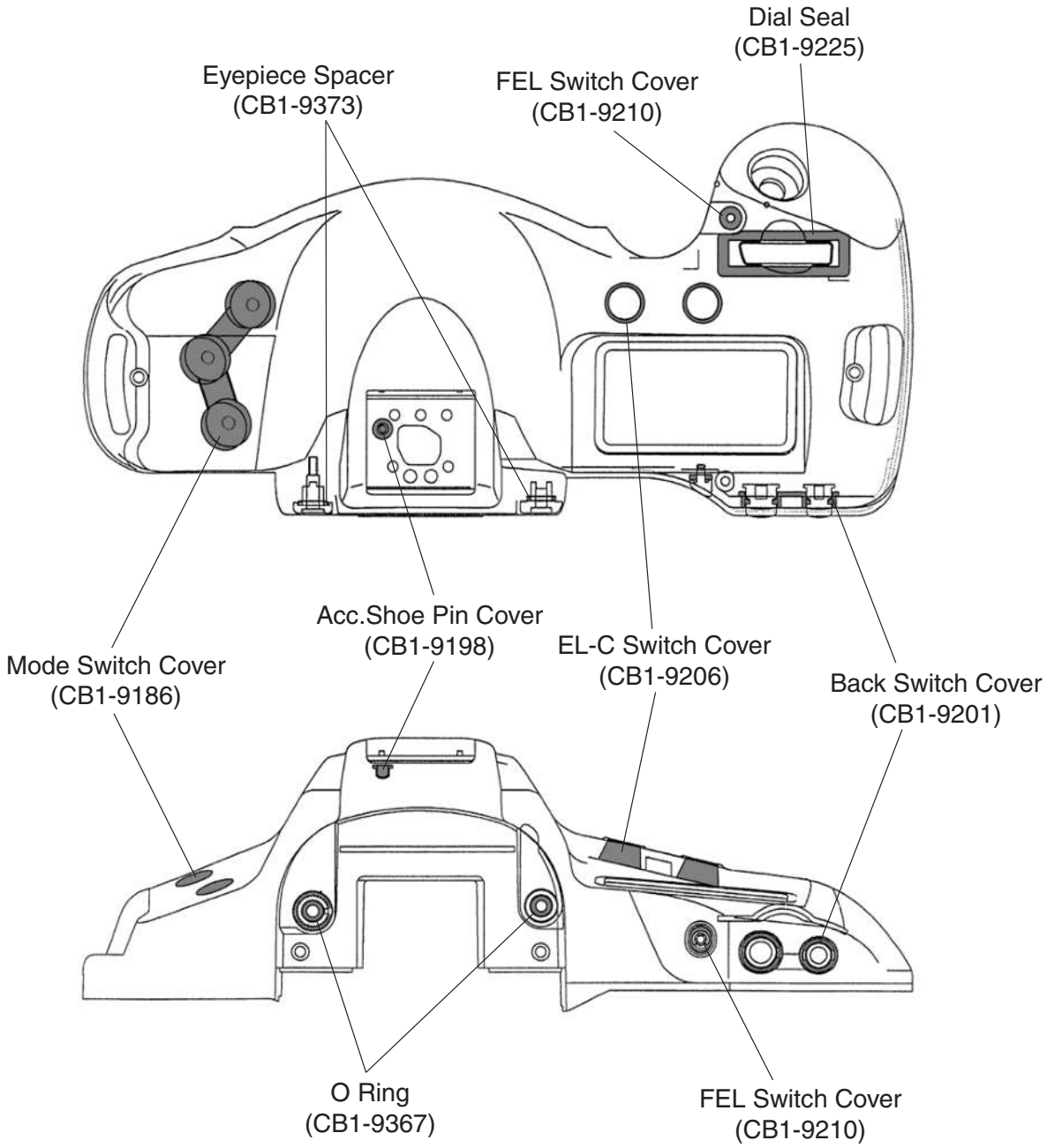
Appendix

EOS-1V

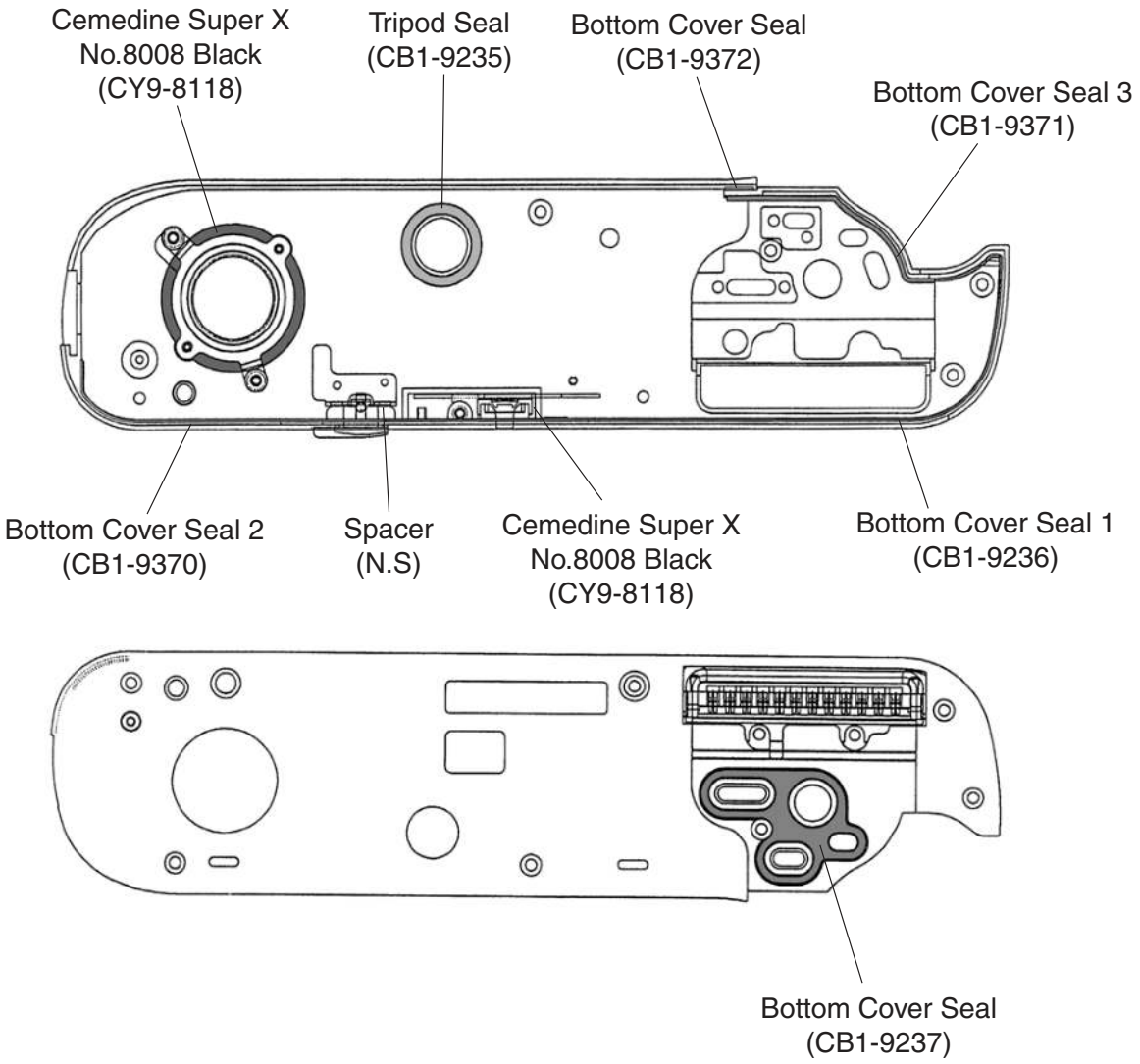
Major Water-resistant

1. Top Cover Unit
2. Bottom Cover Unit
3. Back Cover Unit
4. Body
5. Body (Front side)
6. Latch Cover & PC Terminal
7. Body (Back side & Strap)
8. Eyepiece Unit
9. Body & Dial Unit
10. Palm Switch Holder
11. Release Button
12. Dial Unit
13. Front Cover Unit
14. Grip Unit
15. Systemconnector

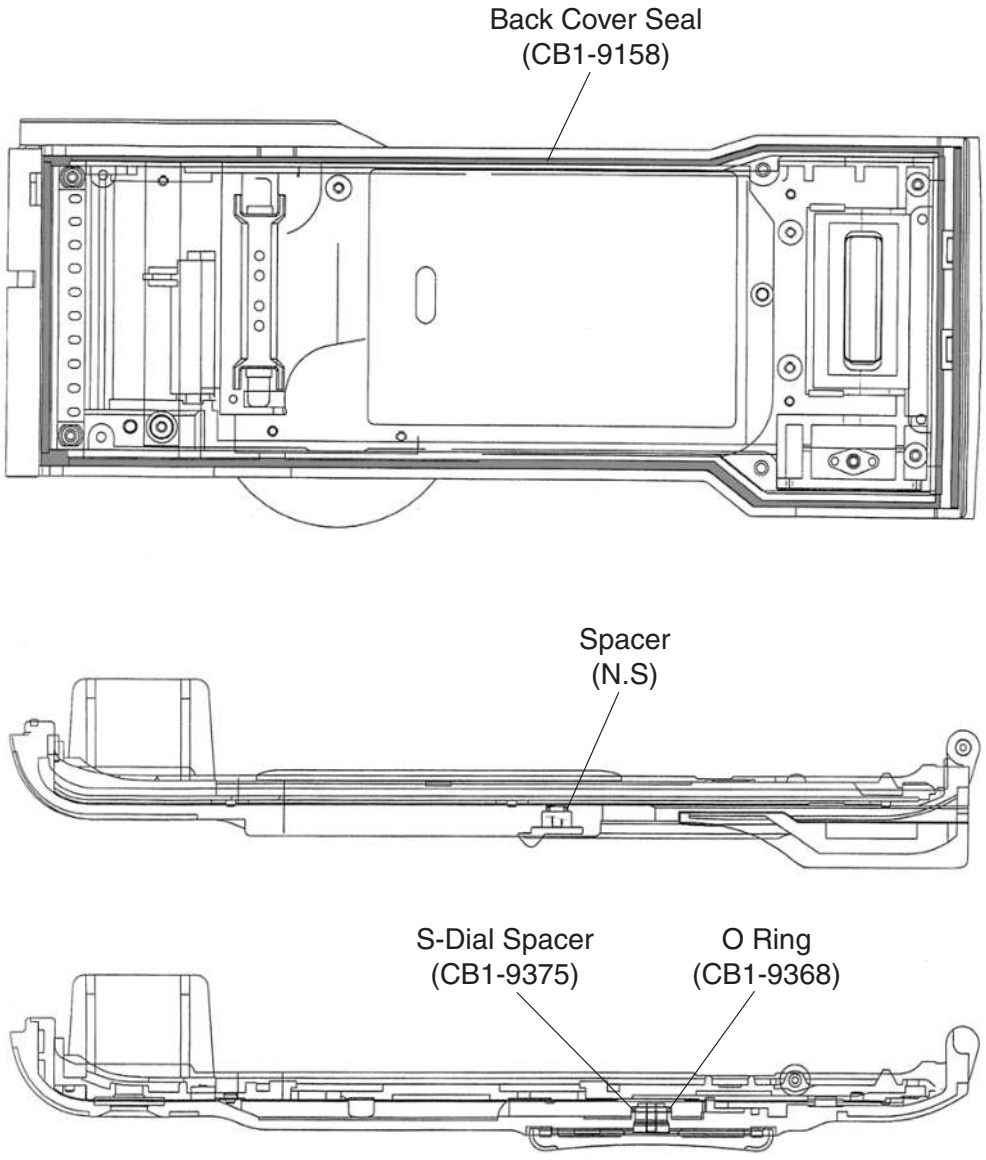
1.Top Cover Unit



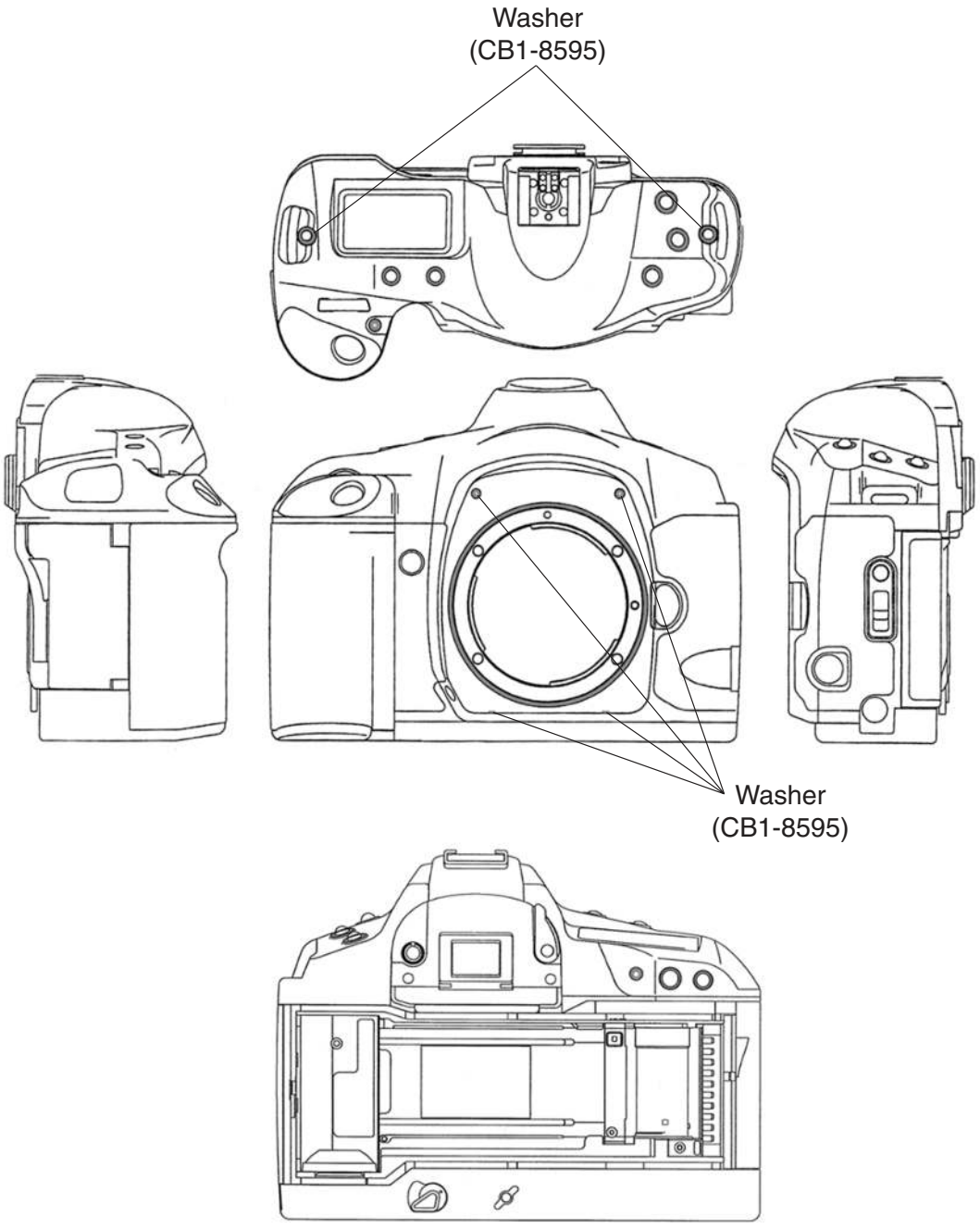
2.Bottom Cover Unit



3.Back Cover Unit



4.Body



6-8 Film rewind system: Automatic film rewind with a small coreless motor.

6-9 Film rewind initiation:
(1) Automatic rewind
Rewind initiated automatically in the following cases:
* After the DX-coded number of exposures are taken.
* After the end of the film is detected.
* After 36 exposures have been taken.
(2) Midroll film rewind
Pressing the midroll rewind button rewinds the film in midroll.
During film rewind in cases (1) and (2) above, the midroll rewind button can toggle between high-speed and silent rewind.

6-10 Film rewind confirmation: Confirmable with the bars and frame counter on the LCD panel.

6-11 Film rewind time: For 24-exposure (36-ex.) film, with new battery, and in room temperature.

High-speed rewind	Approx. 4.5/(8) sec.
Silent rewind	Approx. 12/(18) sec.

* The film rewind time is the same with or without the PB-E2.

6-12 Film rewind stoppage: Stops automatically when the film leader is wound into the cartridge.

6-13 Film rewind completed indicator: Indicated by the film cartridge icon blinking at 2 Hz on the LCD panel.

6-14 Film-loaded confirmation: Indicated by the film cartridge symbol displayed on the LCD panel and visually confirmable with the film window.

6-15 Frame counter:
(1) Digital counter on LCD panel and lower right of viewfinder screen.
* The viewfinder frame counter is not displayed during film rewind.

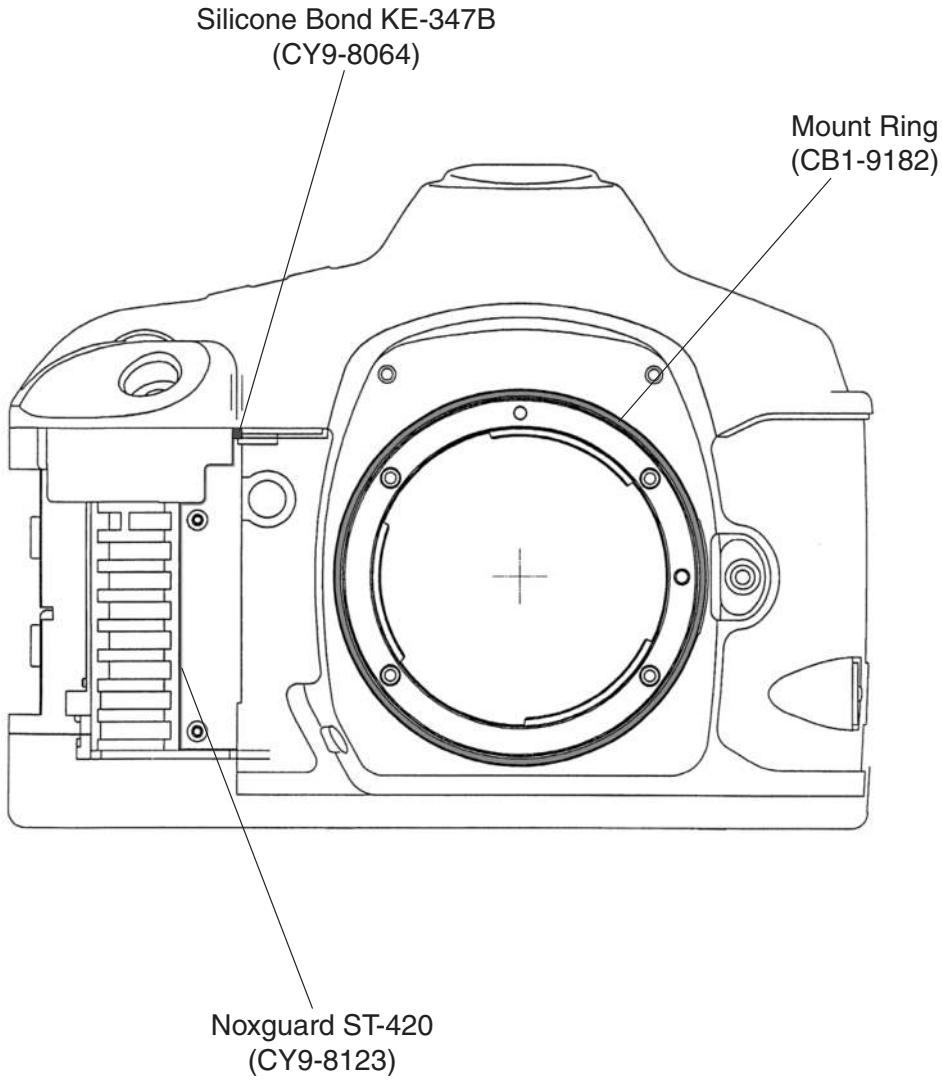
6-16 Film transport noise: High-speed rewind: 59 dB Silent rewind: 49 dB
* At 15 cm from the camera back:

7. Flash Specifications

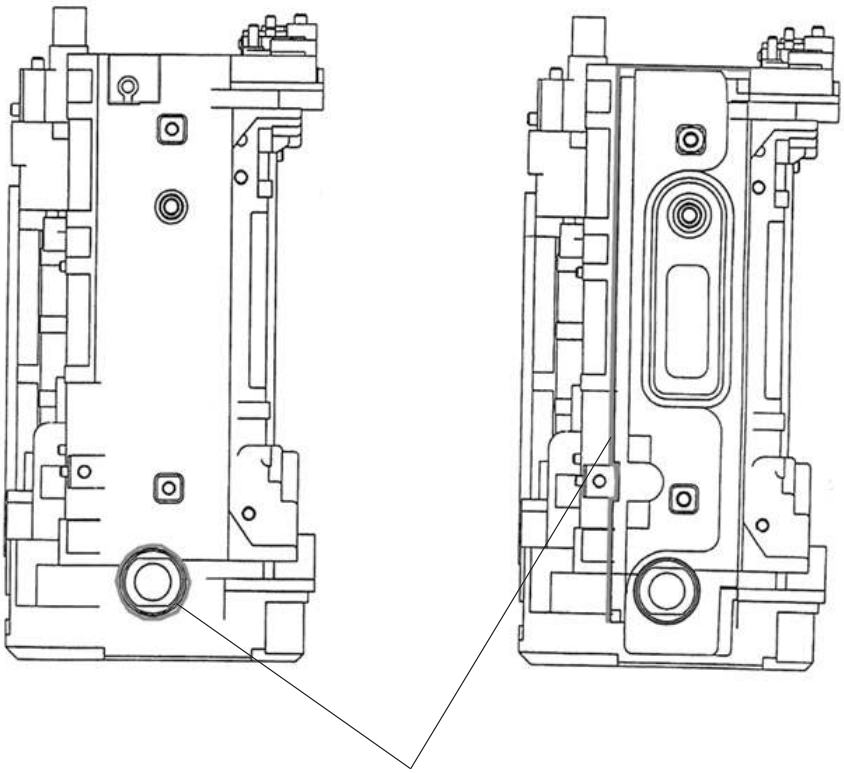
7-1 Flash contacts:
(1) Hot shoe: Sync contacts
(2) Side terminal: Threaded sync terminal (Shock protection feature on hot shoe)
* The PC terminal's cap is the same as the EOS-1N's.
* Flash connectable and usable simultaneously on both (1) and (2) above.

7-2 Hot shoe: Locking pin hole provided to prevent Speedlite slippage.

5.Body (Front side)

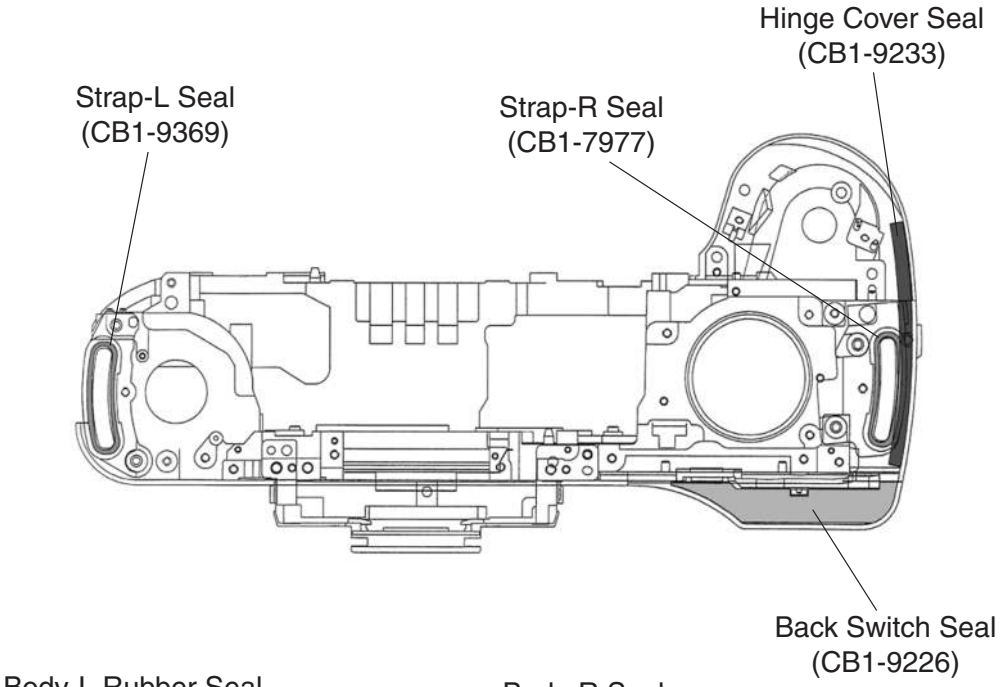


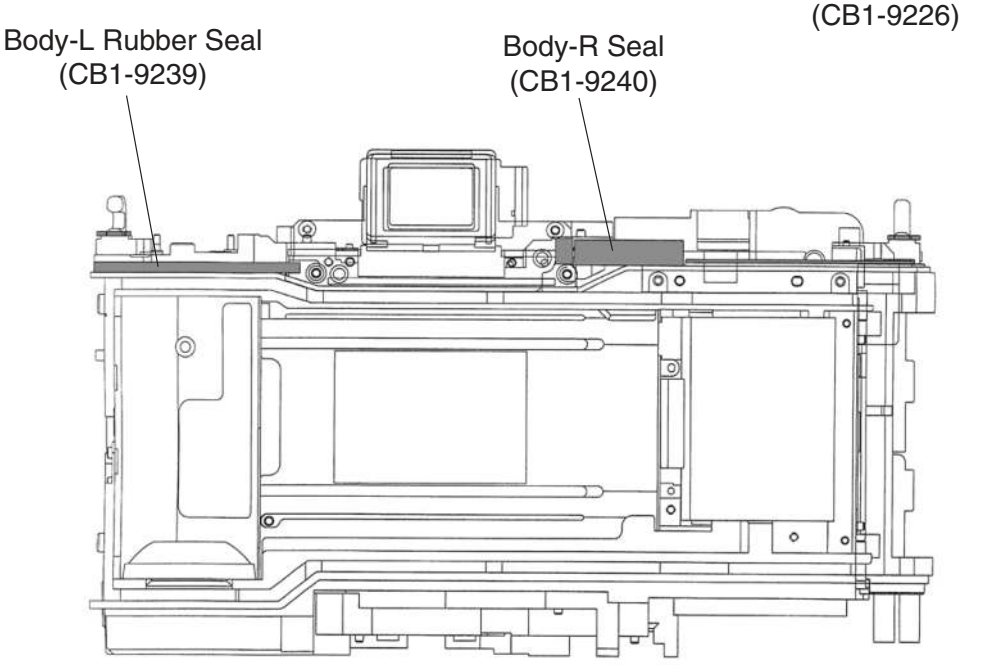
6.Latch Cover & PC Terminal



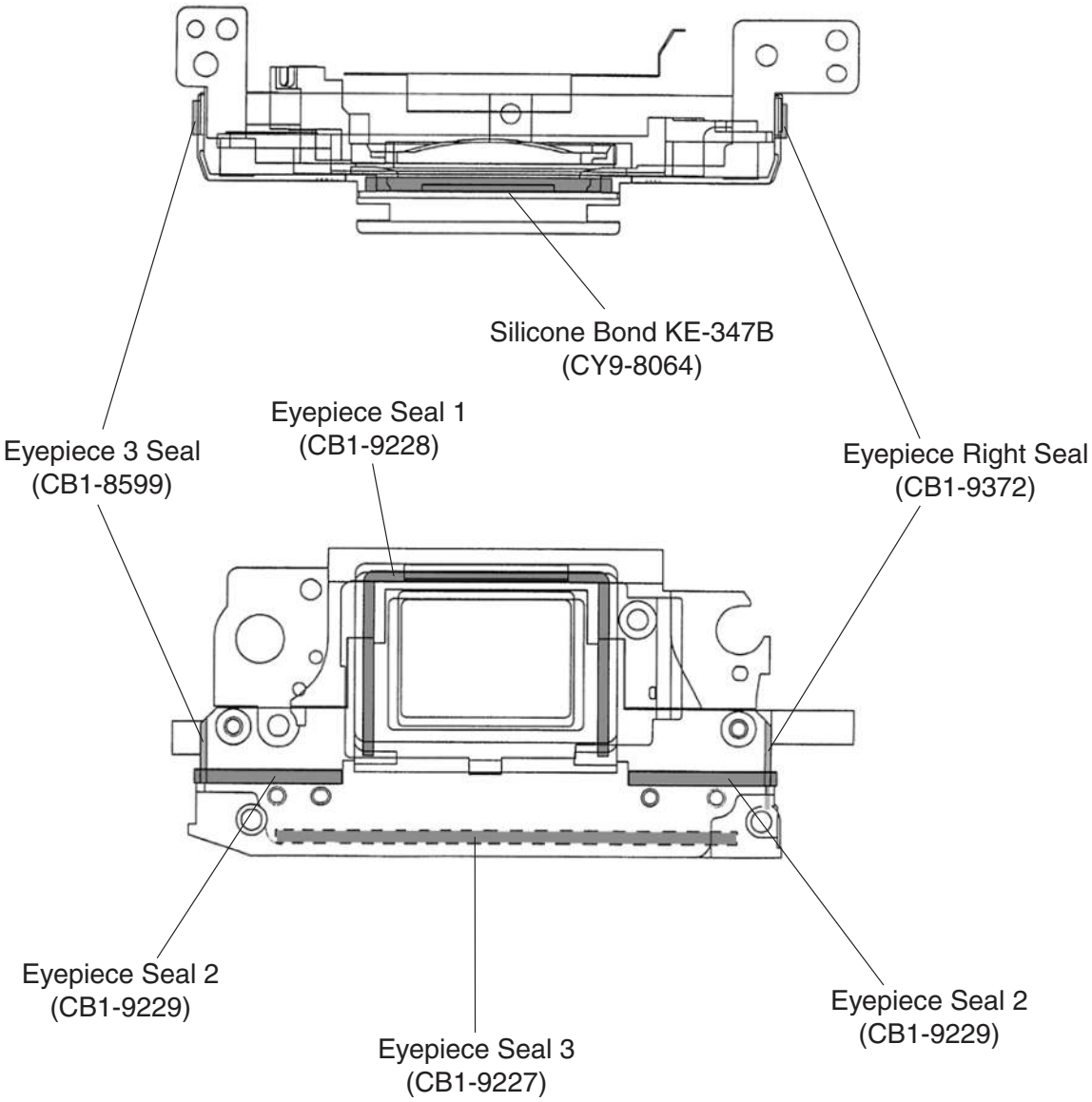
Silicone Bond KE-347B
(CY9-8064)

7.Body (Back side & Strap)

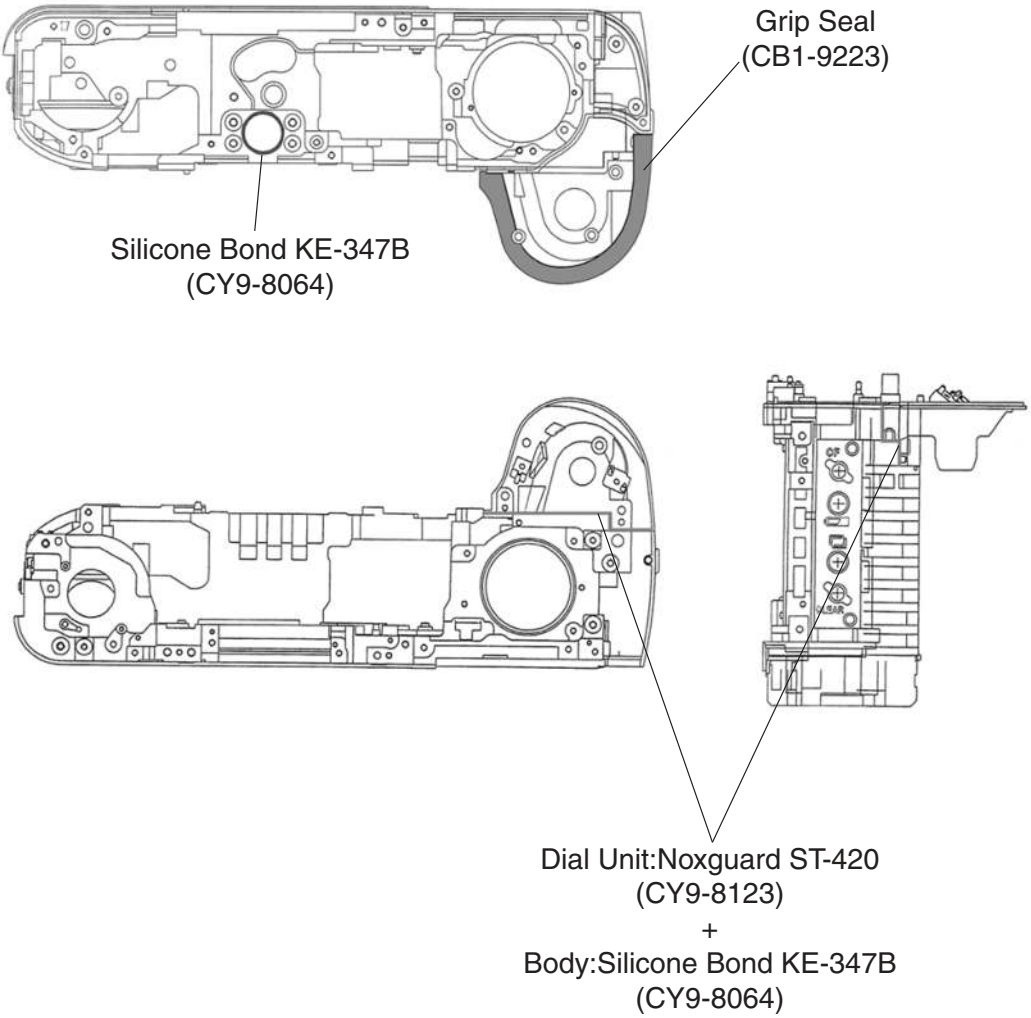




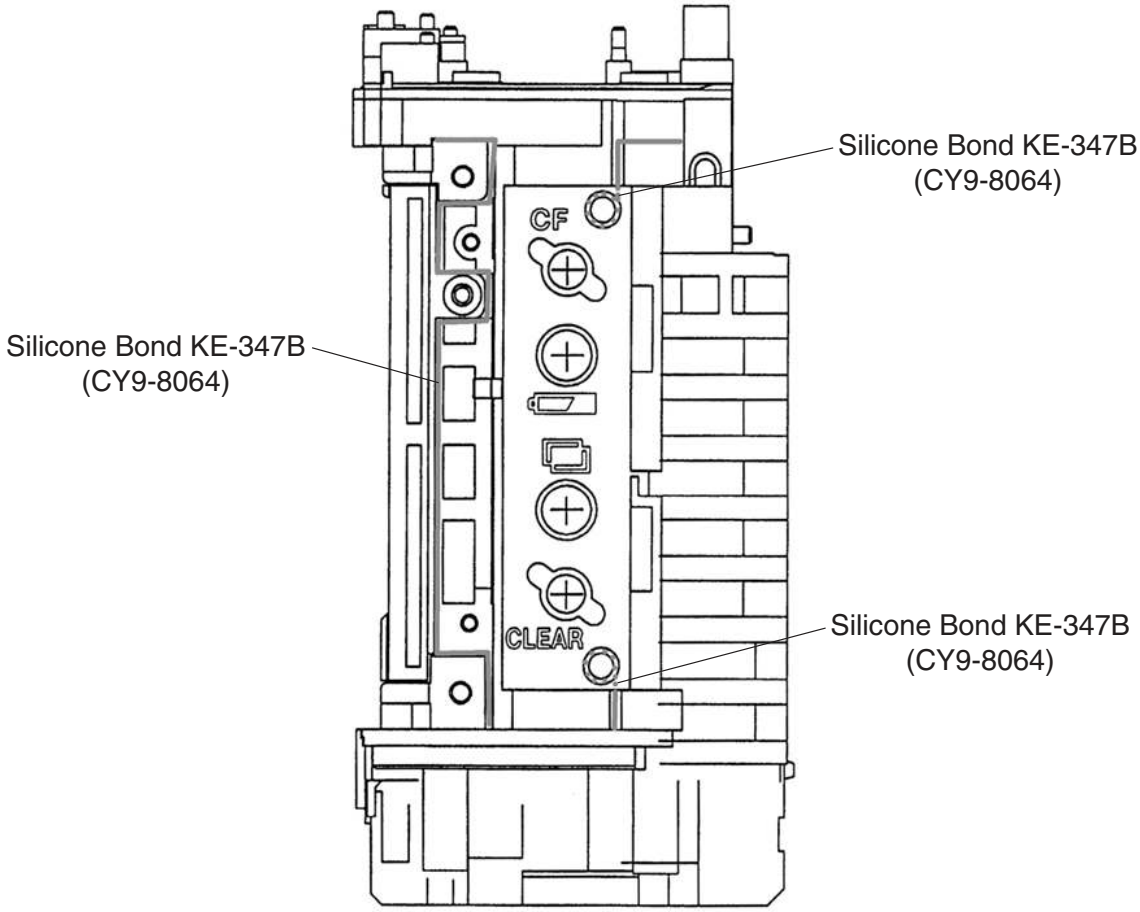
8.Eyepiece Unit



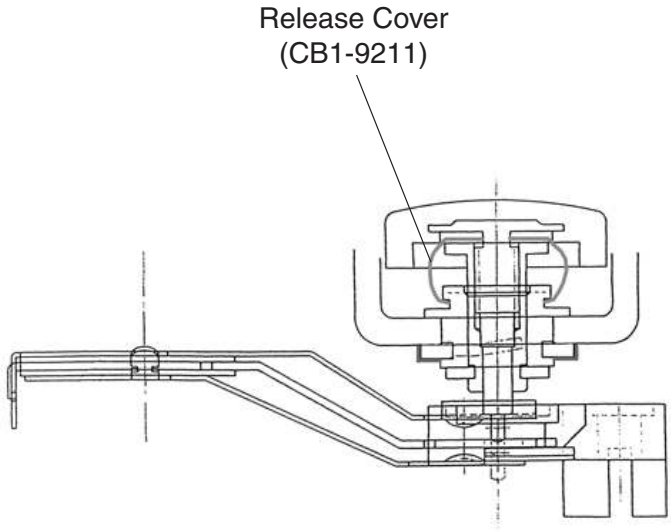
9.Body & Dial Unit



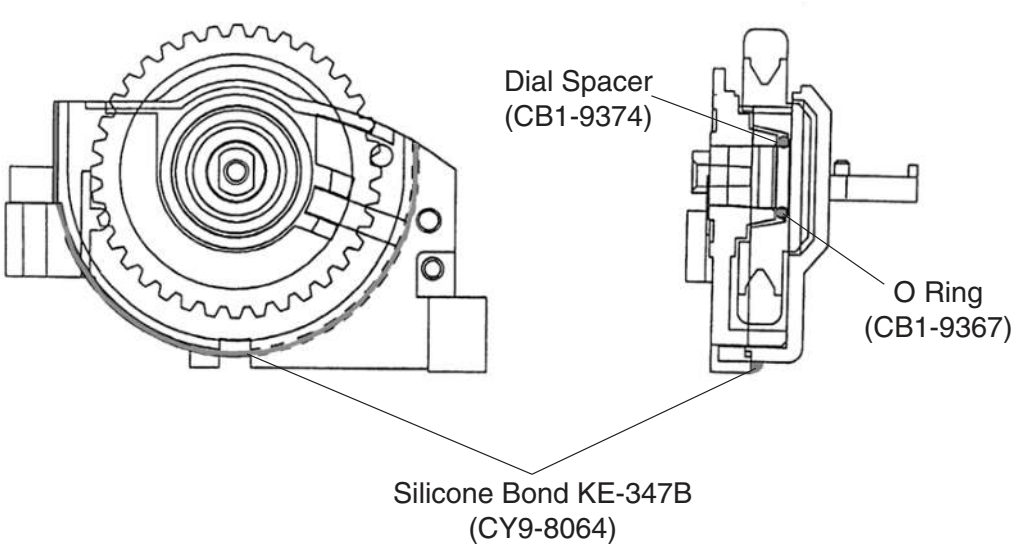
10.Palm Switch Holder



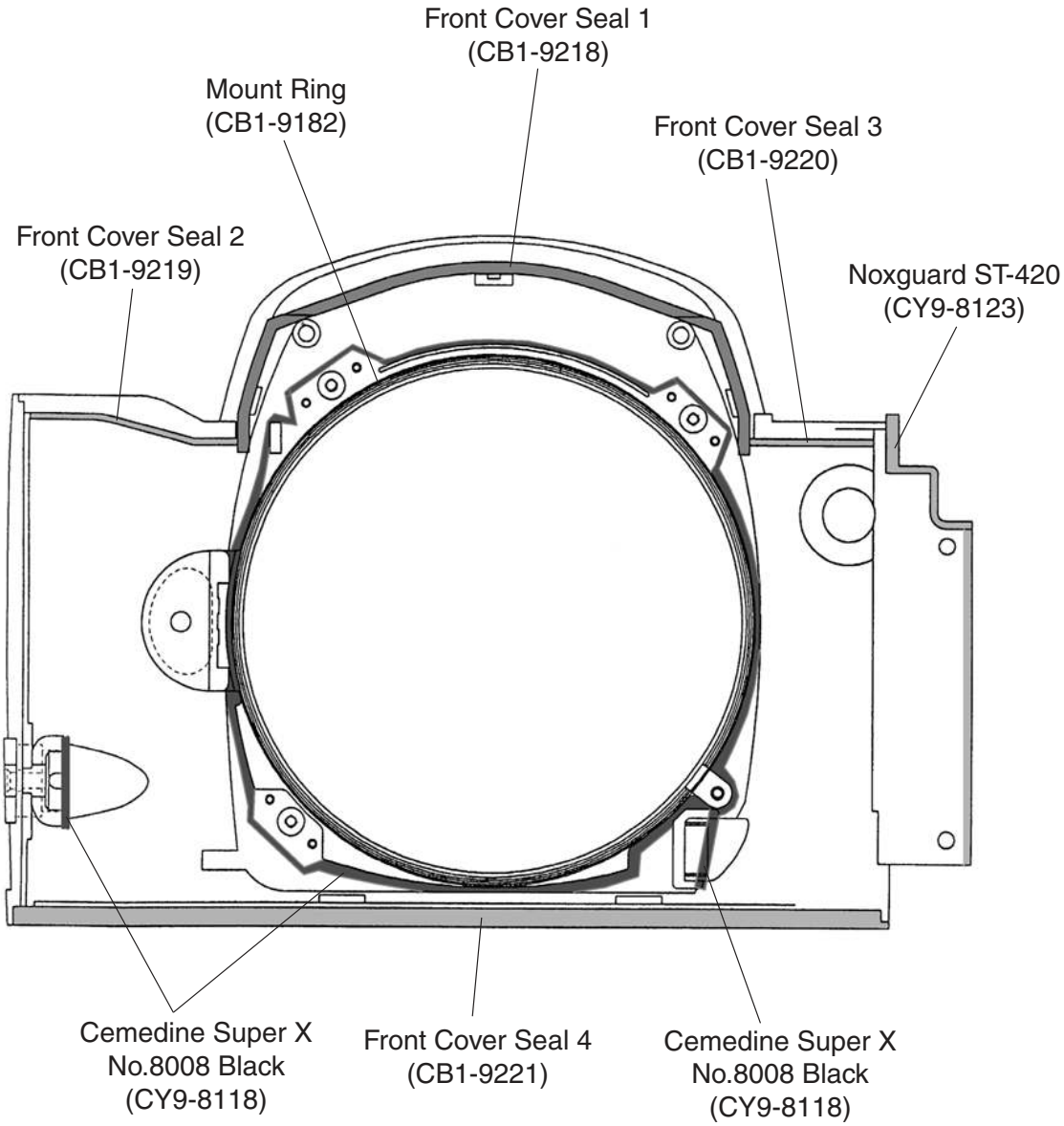
11.Release Button



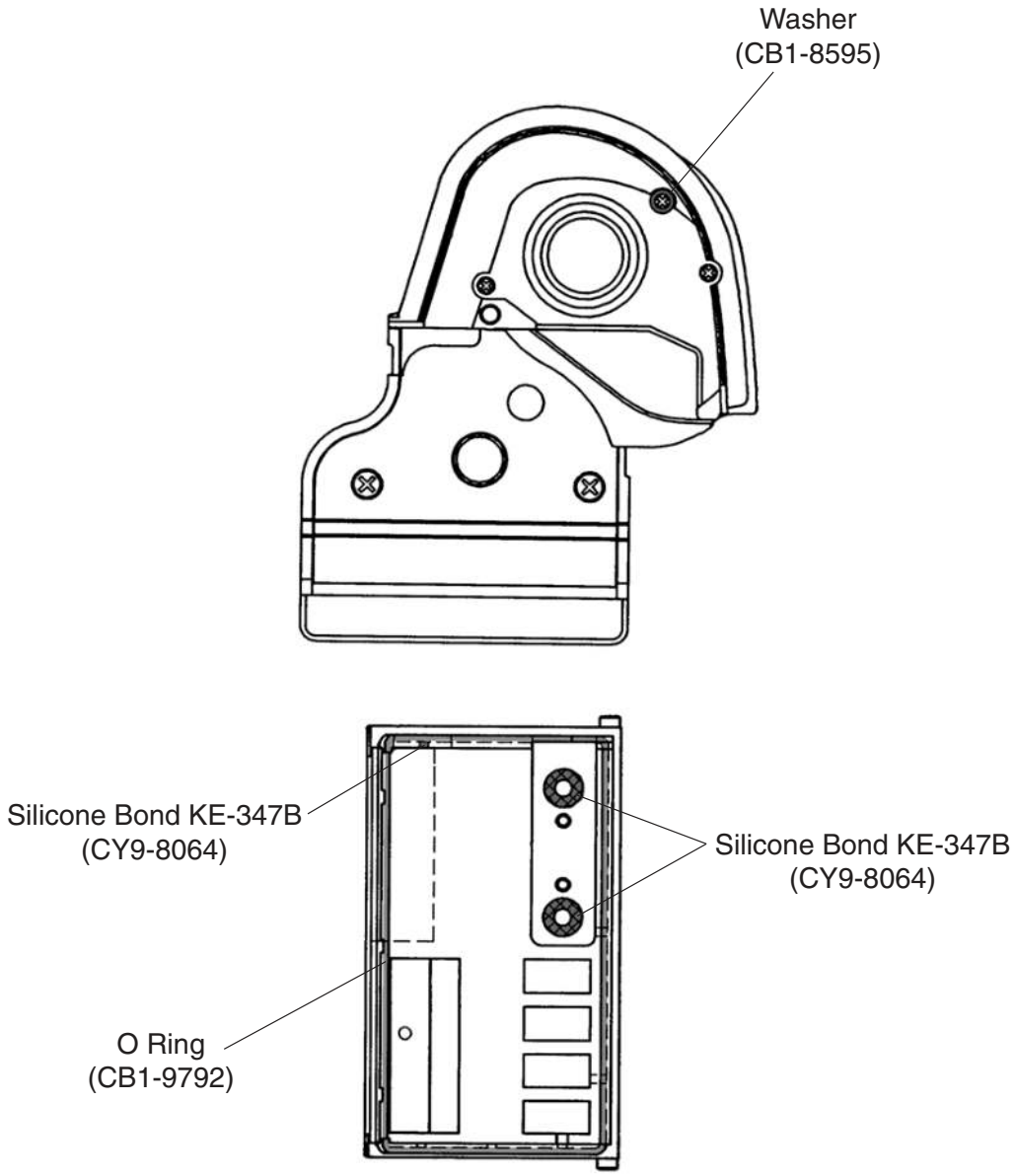
12.Dial Unit


Dial Spacer
(CB1-9374)
O Ring
(CB1-9367)
Silicone Bond KE-347B
(CY9-8064)

13.Front Cover Unit



14.Grip Unit


Washer
(CB1-8595)
Silicone Bond KE-347B
(CY9-8064)
Silicone Bond KE-347B
(CY9-8064)
O Ring
(CB1-9792)

7-3 Flash exposure compensation:
(1) Manual setting
1) Increments: →3 stops in 1/3-stop increments
2) Procedure: Metering mode button + Quick Control Dial or Metering mode button + Focusing point selector + Main Dial
(2) FEB (Flash Exposure Bracketing)
Enabled and set with the 550EX, MR-14EX.
When the flash is unable to fire anymore during FEB continuous shooting, the shutter release locks. The shutter release unlocks when the SW-2 is released. If the flash is not ready, the AE mode takes effect.
* If flash exposure compensation has been set with both the EOS-1V and external Speedlite, the Speedlite's setting will take effect.

7-4 FE lock:
With E-TTL autoflash Speedlites, FE lock is set with the FE lock button.
* FE lock is effective for 6 sec. Pressing the button again renews FE lock.
* FE lock is canceled if any of the following occurs: 6 sec. elapse, the main switch is set to L, one of the mode buttons (BC, CLEAR, REW, CF) is pressed.

7-5 Wireless flash:
Enabled.
* With the 550EX, MR-14EX, or ST-E2, those Speedlites set as slave units will fire a preflash and meter the light reflected off the subject with the AE metering sensor. The flash output is then set and stored in memory and wireless flash is fired.
* Wireless high-speed sync (FP flash), FE lock, and automatic fill-in flash are also possible.

8. Film ID Imprinting
(Built-in with EOS-1V's camera back.)

8-1 Imprinted information:
User-selectable two-digit number (00 - 99) and 3-digit film ID No. (001 - 999).

8-2 User-selectable No.:
With no film loaded, press the Multi Function button to set the film ID setting mode, then turn the Main Dial to set the desired two-digit No. (00 - 99).

8-3 Imprinting position/size:
Imprinted on frame 0 on the film leader. Text height is about 1 mm.

8-4 Imprinting method:
After the film loads, a minilamp imprints transparent LCD digits through the film base (imprinting cannot be disabled).

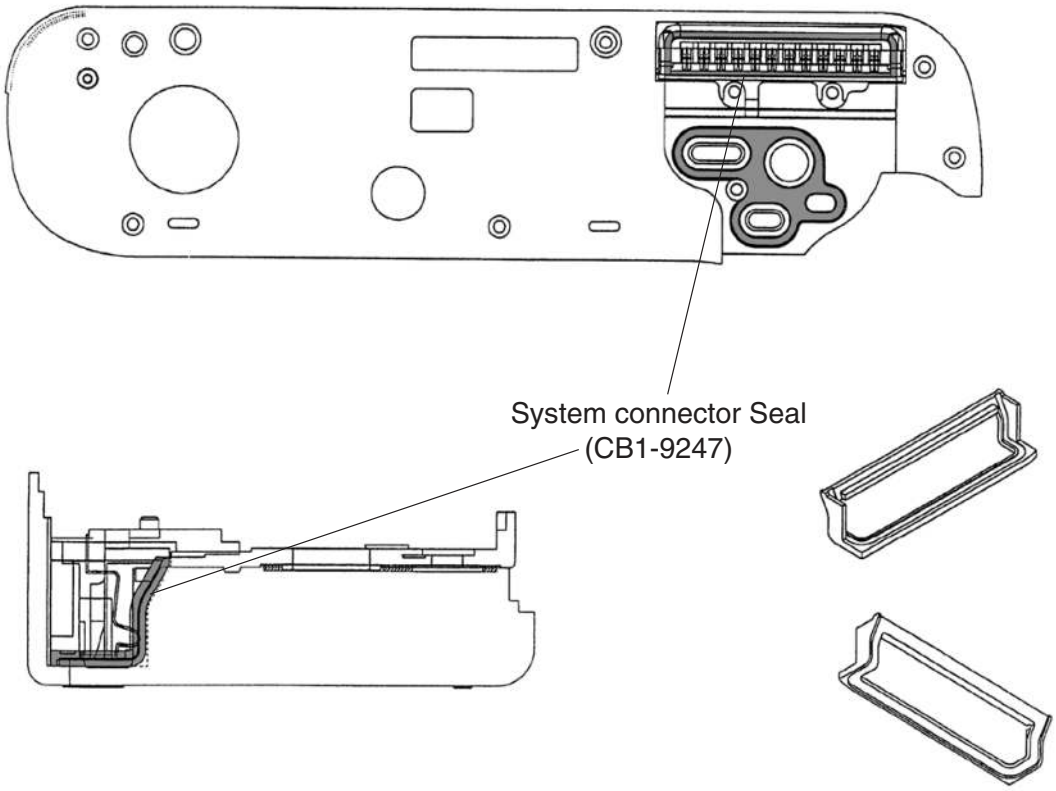
8-5 Imprint confirmation:
During imprinting, the ID symbol is displayed on the LCD panel.
* If the shutter is released during imprinting, the shutter release will override the imprinting.

8-6 Imprinting time:

ISO	64 or lower	80 ~ 125	160 ~ 250	320 ~ 500	640 or higher	NON DX
[ms]	180	120	80	40	25	88

8-7 Power source:
Same as used by the camera.

15.Systemconnector



9. Shooting data

When a picture is taken, the shooting data is automatically recorded in the camera's built-in memory. With the ES-E1, the data can be transferred to a personal computer for viewing and editing.

9-1 Shooting data

Item	Description
1. Selectable No.	Any 2 digits from 00 to 99.
2. Film ID	A 3-digit No. from 001 to 999 counts up each time a roll of film is loaded in the camera.
3. Film-loaded date and time	Year, month, day, hour, and minute.
4. DX-coded film speed	25 - 5000
5. Frame No.	1 - 36
6. Lens focal length used	0 - 9999mm
7. Shooting mode	Shutter speed-priority AE, aperture-priority AE, depth-of-field AE, program AE, manual, bulb, AEB
8. Lens max. aperture	f/00 - f/91
9. Shutter speed used	30 - 1/8000 sec.
10. Aperture used	f/00 - f/91
11. Manually set ISO speed	6 - 6400
12. Exposure compensation amount	-6.0 - +6.0 (including any AEB amount)
13. Flash exposure compensation amount	-6.0 - +6.0 (including any FEB amount)
14. Flash mode	E-TTL, A-TTL, TTL autoflash, manual, OFF
15. Metering mode	Evaluative, partial, spot, and centerweighted metering
16. Film advance mode	Single frame, continuous (w/o Power Drive Booster), low-speed continuous, high-speed continuous, ultra-high-speed continuous, self-timer (10 sec. or 2 sec. delay)
17. AF mode	One Shot AF, AI Servo AF, manual focusing
18. Bulb exposure time	0 to 23 hr. 59 min. 59 sec.
19. Picture-taking date	Year, month, day
20. Picture-taking time	Hr., min., sec.
21. Custom Function settings	CF-0 to CF-19
22. Focusing point selection	One focusing point among the 45, or automatic selection
23. Multiple exposures	ON/OFF
24. Focusing points achieving focus	Multiple focusing points recorded (Only in the One-Shot AF mode)
25. Battery-loaded time and date	Year, month, day, hour, and minute.

* The user-selectable No. and film ID No. are imprinted automatically on the film leader when the film is loaded.

9-2 Viewing and editing shooting data: Enabled only with the EOS Link Software ES-E1 and a personal computer (not possible with the camera only).

9-3 Data configuration: The recording of data items 6 to 25 is optional. EOS Link Software ES-E1 is used to select the items to be recorded.

9-4 Data recording timing: Film data: Recorded when the film is loaded and advanced to frame 1.
Shooting data: Recorded when the shutter button is pressed completely.

9-5	No. of rolls recordable:	50 to 200 36-ex. rolls * The maximum number depends on the number of data items to be recorded. When setting the data configuration with EOS Link Software ES-E1, the maximum number of recordable rolls an be checked. * The recorded data is retained even when the camera battery is removed. * When the memory becomes full, the oldest data is deleted and the newest data is written. * The memory capacity cannot be expanded.
9-6	Memory check:	While the Assist button is active in the film ID setting mode, the LCD panel displays the remaining number of data-recordable 36-ex. rolls. * The film transport bars also indicate the remaining number of data-recordable 36-ex. rolls (one bar represents 5 rolls).
9-7	Shooting data deletion:	Done with EOS Link Software ES-E1 (not possible with the camera)

10. Personal Computer Connection (Camera)

10-1	Multi functions:	After the camera is connected to the personal computer, press the Multi Function button to set the data transfer mode. Subsequent operations are done with the EOS Link Software ES-E1.
10-2	Interface standards:	Serial interface
10-3	Connector port:	Remote Control/Data transfer terminal
10-4	Transmission speed:	9.6 kbps - 115.2 kbps
10-5	Data transmitted:	Set with EOS Link Software ES-E1.

11. Date Function

11-1	Auto calendar:	Built-in and compatible with the Gregorian calendar year (year 2000 - 2099) and adjusts automatically for short and long months and leap years (including the leap year of 2000).
11-2	Date setting:	Press the Multi Function button to set the date mode. Press the Assist button to select the number to be adjusted. Turn the Main Dial to adjust the number. * The date and time must first be set with the EOS Link Software ES-E1 before the date and time can be adjusted with the camera. Otherwise, pressing the Multi Function button will not set the date setting mode. * With the EOS-1V, only the last two digits of the year can be adjusted.
11-3	Date imprinting:	None (provided with Dateback DB-E2)
11-4	Clock backup:	Backup for 24 hours after battery removal.

12. Camera Specifications

12-1 Camera back: Opens and detaches with a camera back release lever (with lock-release button). Film window provided.

12-2 Custom Functions: 20 user-selectable Custom Functions (No. 0 - 19)
* The LCD panel's exposure level scale bars indicate the Custom Functions (except CF-0) already set.

12-3 Personal functions: (1) Custom Functions settable in 3 groups
① After setting the Custom Functions, use the Multi Function button to create Personal Functions.
② Turn the Main Dial to select PF-0, then press the Custom Function set button to select PF-0-1, PF-0-2, or PF-0-3.
③ Press the Assist button to complete the setting. To call up the Personal Function, follow steps ① and ② above, then press the shutter button halfway.
* EOS Link Software ES-E1 can also be used to set Custom Functions (except C.Fn-0).
* C.Fn-0 cannot be registered in a Custom Function group.
(2) ON/OFF of Personal Functions set with EOS Link Software ES-E1
① Press the Multi Function button to set the Personal Function.
② Turn the Main Dial to select the Personal Function from PF-1 to PF-30.
③ Press the Custom Function set button to select 0 (OFF) or 1 (ON).
④ Press the shutter button halfway to complete the procedure.

12-4 Clear button: (1) Pressing this button resets the settings to default shown in the table below

No. Item	Default
1. Shooting mode	Program AE
2. AF mode	One Shot AF
3. Metering mode	Evaluative metering
4. Film advance mode	Single frame
5. Focusing point selection mode	Automatic
6. Focusing point home position	Center focusing point
7. Multiple exposures	Canceled/Default setting
8. Exposure compensation	
9. Flash exposure compensation	
10. AE lock	
11. FE lock	
12. AEB	Canceled

(2) Pressing the Clear button while a Custom Function can be set resets all Custom Functions (except CF-0) to the default.

(3) When the CLEAR button is pressed in the Personal Function mode, all Custom Functions will be reset P.Fn-*-0.

* Personal Functions which were set with EOS Link Software ES-E1 can be set again even after the Personal Functions have been reset. For the setting procedure, see 12-3 (2).

12-5 Power source:

Configuration	Power Source	Voltage [V]
EOS-1V	2CR5 × 1	6
w/Battery Pack BP-E1	2CR5 × 1	
	LR6 × 4	
	KR15/51 × 4	4.8
w/Power Drive Booster PB-E2	LR6 × 8	12
	FR6 × 8	
	KR15/51 × 8	9.6
	NP-E2	12
w/Power Drive Booster E1	LR6 × 8	12
	FR6 × 8	
	KR15/51 × 8	9.6
	Ni-Cd Pack E1	

When an AA nickel-hydrogen storage battery (Ni-MH) is used, the level is the same as when an AA Ni-Cd battery (KR15/51) is used.

12-6 Main switch: Three settings: OFF/ON/Signal on.

12-7 Battery check: Automatic battery check when the main switch is turned on. The battery level is indicated by one of four battery check icons (not including OFF) on the LCD panel.

12-8 External display: Large LCD panel provided. Built-in, uniform illumination (EL).

Pressing the ELEMENT button turns on the illumination for 6 sec. During illumination, the 6-sec. period is restarted if another switch is touched. Illumination turns off after 6 sec. or if the EL button is pressed again.

12-9 Film advance coupler cap: Same as for EOS-1N.

12-10 Tripod socket: CU 1/4.

12-11 Remote control: Remote Control/Data transfer terminal provided

* The terminal is protected against water and dust with a pressure-fixed cap.
* The terminal is also used for connecting to EOS Link Software ES-E1.

12-12 Standard grip: New for EOS-1V. Battery chamber cover designed to be water and dust resistant.

12-13 Interchangeable grip: Compatible with GR-E1, PB-E2, BP-E1, and PDB-E1.

12-14 Body material: Magnesium (top and front covers), aluminum diecast (aperture portion) and polycarbonate resin with glass fiber.

12-15 Exterior color: Black

12-16 Dimensions: 161 (W) × 120.8 (H) × 70.8 (D) mm (Body thickness: 54.8 mm)
6.34 (W) × 4.72 (H) × 2.79 (D) in (Body thickness: 2.16 in.)

12-17 Weight: 945 g (add 40 g for the lithium battery)
33.3 oz. (add 1.41 oz. for the lithium battery)

13. Major Accessories

13-1 New accessories:
(1) EOS Link Software ES-E1
(2) MACRO RING LITE MR-14EX
(3) EOS-1V standard grip GR-E2 (Also attachable to EOS-1N, EOS-1, and EOS-3)
(4) Laser Matte focusing screen with Area AF ellipse

13-2 Major EOS System Accessories: See "6. Accessory Compatibility (Compatible System Accessories)."

14. Misc.

14-1 Battery service life testing conditions

① Batteries used: Primary battery is new (less than 3 months old)
Secondary battery is fully charged.
② Lens: EF 50mm f/1.4 USM
③ Shooting mode: Shutter speed-priority AE (at 1/1000 sec.)
④ Subject brightness: EV 15
⑤ Film advance mode: Continuous
⑥ Film rewind mode: Standard (CF-1-0)
⑦ AF mode: AI Servo AF
⑧ SI display: On (Standard CF-10-0)
⑨ Film: Kodak Tri-X, 36-ex. (fresh roll)
⑩ Shooting conditions: The following operation sequence was executed as described below: AF search (infinity to near focus to infinity), shutter button pressed halfway for 6 sec., shutter released, and meter active for 2 sec.

● At 20°C
Film loaded, continuous shooting of 36 frames, automatic film rewind, film cartridge removed, 20-sec. break, stop down to f/5.6 for 5 sec., depth-of-field preview.

● At -20°C
After the camera and film were exposed to a temperature of -20°C for three hours, the following operation was executed: Film loaded, continuous shooting of 5 frames at 20-sec. intervals until 36 frames exposed (the last frame is exposed singly), automatic film rewind, film cartridge removed, and 20 sec. break, stop down to f/5.6 for 5 sec., depth-of-field preview, and 3-min. break.

* One roll is considered to be one whose film was advanced and rewound completely. Specifications for 24-exposure are interpolated from 36-exposure results.

4. NOMENCLATURE

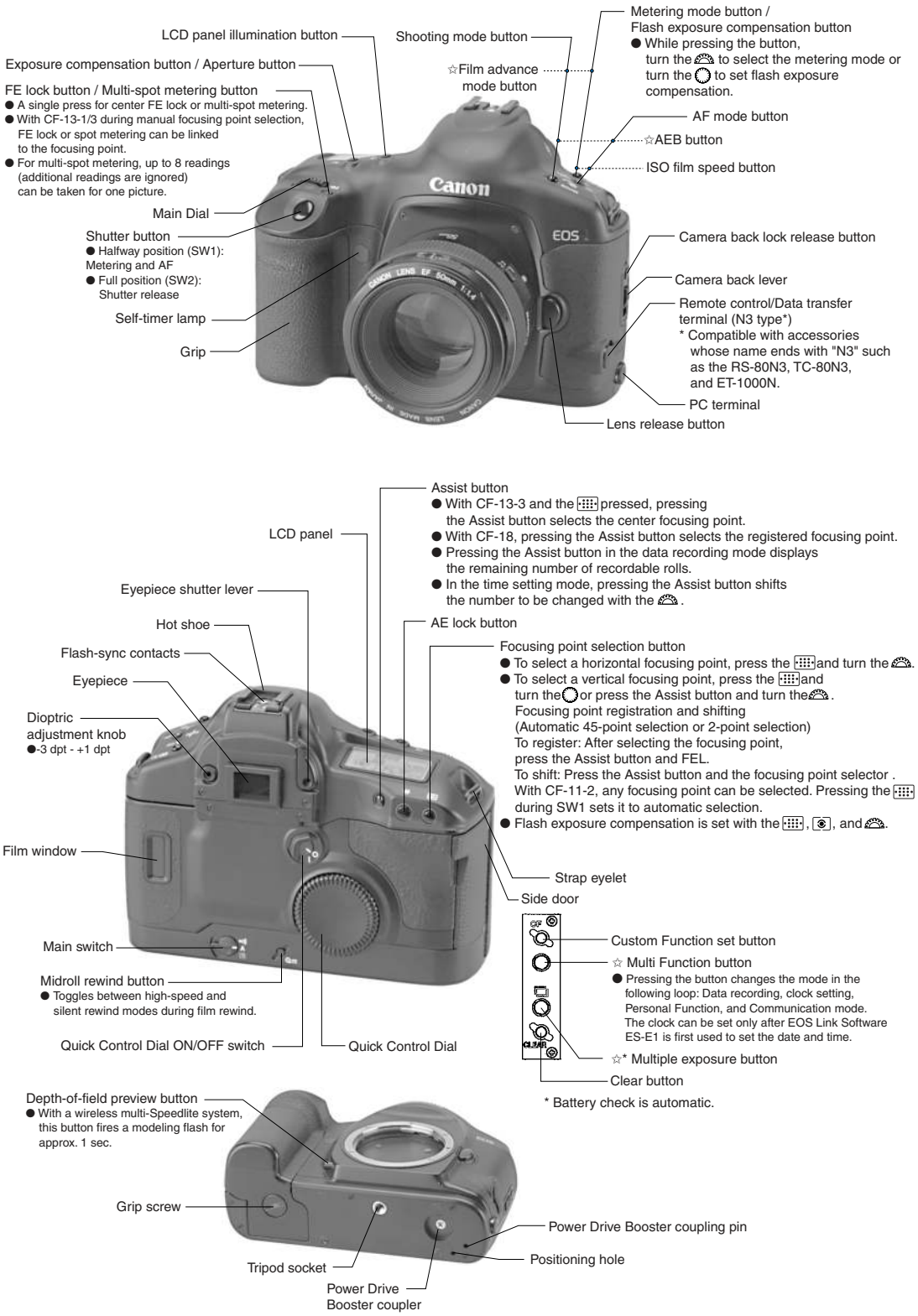

LCD panel illumination button
Shooting mode button
Metering mode button / Flash exposure compensation button
● While pressing the button, turn the to select the metering mode or turn the to set flash exposure compensation.
Exposure compensation button / Aperture button
☆Film advance mode button
FE lock button / Multi-spot metering button
● A single press for center FE lock or multi-spot metering.
● With CF-13-1/3 during manual focusing point selection, FE lock or spot metering can be linked to the focusing point.
● For multi-spot metering, up to 8 readings (additional readings are ignored) can be taken for one picture.
AF mode button
☆AEB button
ISO film speed button
Main Dial
Shutter button
● Halfway position (SW1): Metering and AF
● Full position (SW2): Shutter release
Camera back lock release button
Camera back lever
Remote control/Data transfer terminal (N3 type*)
* Compatible with accessories whose name ends with "N3" such as the RS-80N3, TC-80N3, and ET-1000N.
Self-timer lamp
Grip
PC terminal
Lens release button
Assist button
● With CF-13-3 and the pressed, pressing the Assist button selects the center focusing point.
● With CF-18, pressing the Assist button selects the registered focusing point.
● Pressing the Assist button in the data recording mode displays the remaining number of recordable rolls.
● In the time setting mode, pressing the Assist button shifts the number to be changed with the .
LCD panel
Eyepiece shutter lever
Hot shoe
AE lock button
Flash-sync contacts
Focusing point selection button
● To select a horizontal focusing point, press the and turn the .
● To select a vertical focusing point, press the and turn the or press the Assist button and turn the .
Focusing point registration and shifting
(Automatic 45-point selection or 2-point selection)
To register: After selecting the focusing point, press the Assist button and FEL.
To shift: Press the Assist button and the focusing point selector .
With CF-11-2, any focusing point can be selected. Pressing the during SW1 sets it to automatic selection.
● Flash exposure compensation is set with the , , and .
Eyepiece
Dioptric adjustment knob
●-3 dpt - +1 dpt
Film window
Strap eyelet
Side door
Custom Function set button
☆ Multi Function button
● Pressing the button changes the mode in the following loop: Data recording, clock setting, Personal Function, and Communication mode. The clock can be set only after EOS Link Software ES-E1 is first used to set the date and time.
Main switch
Midroll rewind button
● Toggles between high-speed and silent rewind modes during film rewind.
☆* Multiple exposure button
Clear button
* Battery check is automatic.
Quick Control Dial ON/OFF switch
Quick Control Dial
Depth-of-field preview button
● With a wireless multi-Speedlite system, this button fires a modeling flash for approx. 1 sec.
Grip screw
Power Drive Booster coupling pin
Positioning hole
Tripod socket
Power Drive Booster coupler

Fig. 1-17

<table>
<tr><td colspan="2">Selectable Focusing Points</td><td>Standard</td><td>CF-13-1,2
■: User-selectable focusing points.</td><td>CF-13-3
■: User-selectable focusing points.</td></tr>
<tr><td colspan="2">Standard Focusing Point Selection</td><td>ON/
ON/
or
ON/</td><td>ON/
ON/
or
ON/</td><td>ON/
ON/
ON/Assist button</td></tr>
<tr><td colspan="2">Focusing Point Registration</td><td>Focusing point selection and registration are enabled
+FEL
Hold down the Assist button, then press FEL to register the focusing point.</td><td>Procedure is the same as left.
Eleven focusing points are user-selectable and automatic selection can be registered.</td><td>Not possible.</td></tr>
<tr><td rowspan="4">Shifting to the Registered Focusing Point and Automatic Selection/Center Focusing Point Selection</td><td>Standard Setting</td><td>Shift to registered focusing point
With CF-11-2:
+/- button + Assist button
With CF-11-3:
FEL button + Assist button</td><td>Same as left.</td><td>Center focusing point selected.
With CF-11-2:
+/- button + Assist button
With CF-11-3:
FEL button + Assist button</td></tr>
<tr><td>CF-18-1</td><td>Shift to registered focusing point</td><td>Same as left.</td><td>Center focusing point selected.</td></tr>
<tr><td>CF-18-2</td><td>Press the button to shift to the registered focusing point.
Release the button to return to the original focusing point.</td><td>Same as left.</td><td>Press the button to select the center focusing point.
Release the button to return to the original focusing point.</td></tr>
<tr><td>CF-11-2</td><td>Automatic selection
During SW1 or SW2, press the focusing point selector.
ON</td><td>Same as left.</td><td>During SW1 or SW2, press the focusing point selector.
ON
Automatic selection</td></tr>
</table>

Fig. 1-18 Focusing point selection, registration, and shifting.

* To register a focusing point, you press the Assist button and FE lock button simultaneously. However, if the Speedlite is ready and you press the FE lock button first, FE lock will result and the focusing point selection mode will be canceled. The Assist button must be pressed before the FE lock button.

Table 1-5 Focusing Point Selection Methods

Setting	Selection Range	Selection Operation							Remarks
		During Metering	⌨	Assist Button	+ / -	FEL	◠	○	/ : After the button is pressed, it can be released to continue the operation. + : Hold down the button for the operation.
Selection of 45 focusing points (Same as with CF-13-1/2)	Left/right		● /				●		
	Up/down		● /					●	
			● /	● +			●		Convenient when the Quick Control Dial switch is off.
			● +			● /	●		After pressing the buttons simultaneously, release only the FEL button and turn the Main Dial.
Selection of 45 focusing points + CF-11-2 (Same as with CF-13-1/2)	Left/right				● /		●		
		●						●	The extreme left or right focusing point is selected. No automatic selection.
	Up/down				● /			●	
		●		● +			●		The extreme left or right focusing point is selected. No automatic selection.
			● /	● +			●		Convenient when the Quick Control Dial switch is off.
Selection of 9 focusing points with CF-13-3	Left/right		● /				●		
	Periphery		● /					●	
	Center		● /	●					
Selection of 9 focusing points with CF-13-3 + CF-11-2	Left/Right				● /		●		
					● /			●	
	Periphery	●						●	
	Center			●	, ●				

Table 1-6 Custom Function List

Function	CF-No.	Setting	Description	New	Old	Remarks
Focusing screen characteristics	CF-0	0	Setting for New Laser Matte screens (Ec-N, Ec-R).		●	
		1	Setting for Laser Matte screens (Ec-A, Ec-B, Ec-C, Ec-CII, Ec-D, Ec-H, Ec-I, Ec-L, EOS-1V standard screen).		●	
Auto film rewind mode	CF-1	0	High-speed automatic film rewind.		●	CF-1-1 and CF-1-3 are ideal when film rewind noise would be disturbing.
		1	No automatic film rewind. High-speed film rewind with midroll rewind button.		●	
		2	Silent (low-speed) automatic film rewind.		●	
		3	No automatic film rewind. Silent film rewind with midroll rewind button.		●	
Film leader position	CF-2	0	Rewinds film leader into the cartridge.		●	This is convenient if you develop the film yourself. With CF-2-1, the shutter speed will always be 1/8000 sec. if you release the shutter with the camera back open.
		1	Leaves film leader outside the cartridge.		●	
Film speed setting method	CF-3	0	Set automatically with the DX code.		●	This is for when you want to set the film speed yourself. It saves you from setting the film speed each time you load film.
		1	Set manually.		●	
AF activation	CF-4	0	Enables AF and AE operation with the shutter button pressed halfway. ● AE lock with the (*) button.		●	
		1	Enables AE and AF operations with the M-16 button. ● AE lock with the shutter button pressed halfway.		●	This is effective when you want to focus and meter at different portions of the scene.
		2	Enables AF and AE operations with shutter button pressed halfway. ● AF lock (no AE lock) with the (*) button.		●	This is effective when you want to stop AI Servo AF operation momentarily.If an obstruction comes between the camera and subject, it will not throw off the AF. The exposure is set at the moment of exposure.
		3	Enables AF and AE operation (no AE lock) with the (*) button. ● Pressing the shutter button completely releases the shutter (pressing it halfway executes AE operation only).		●	When you use AI Servo AF, you can toggle between AI Servo AF and focus lock just by pressing the (*) button. This is useful for subjects which keep moving and stopping repeatedly. The exposure is also set at the moment when the picture is taken. Thus, the focusing and exposure are always set correctly and all you do is wait for the right moment to capture the shot.
Manual Tv/Av settings	CF-5	0	Shutter speed: Set with Main Dial Aperture: Set with Quick Control Dial or +/- button and Main Dial.		●	
		1	Aperture: Set with Main-Dial. Shutter speed: Set with Quick Control Dial or +/- button and Main Dial. ● The functions of the Main Dial and Quick Control Dial are reversed.		●	This makes it easier to change the aperture during studio sessions with studio flash units. Also, when AEB is used in the manual exposure mode, the shutter speed can be fixed while only the aperture is shifted for AEB.

●: Also provided with the EOS-3.

Function	CF-No.	Setting	Description	New	Old	Remarks
Manual Tv/Av settings	CF-5	2	The shutter speed and aperture are set in the same way as with CF-5-0. In the aperture-priority AE or manual mode, the aperture can be set with the EOS-1V even while the lens is detached.		●	If you are using a super telephoto lens with more than one EOS-1V body, you can still set the aperture with the camera(s) not attached to the lens. This function is mainly for pro photographer assistants.
		3	The shutter speed and aperture are set in the same way as with CF-5-1. In the aperture-priority AE or manual mode, the aperture can be set with the EOS-1V even while the lens is detached.		●	Same as CF-5-2.
Exposure level increments	CF-6	0	1/3-stop increments in all cases.		●	This is suited for slide films which have a narrow exposure latitude.
		1	Whole-stop increments for the shutter speed and aperture, and 1/3-stop increments for exposure compensation and flash exposure compensation.		●	The shutter speed and aperture can be set in the familiar full-stop increments.
		2	1/2-stop increments in all cases.		●	Suited for negative films which have a wide exposure latitude.
USM lens electronic ring MF	CF-7	0	The lenses listed on the right enable electronic manual focusing after AF operation.		●	EF 50mm f/1.0L USM EF 85mm f/1.2L USM EF 200mm f/1.8L USM EF 300mm f/2.8L USM EF 400mm f/2.8L USM EF 500mm f/4.5L USM EF 600mm f/4L USM EF 1200mm f/5.6L USM EF 28-80mm f/2.8-4.0L USM.
		1	Disables electronic manual focusing after AF operation.		●	This prevents the focus from being thrown off by inadvertent turning of the focusing ring after One-Shot AF.
		2	Disables electronic manual focusing at all times.		●	When CF-7-0/1 and CF-4-1/3 are set, the focusing ring can be used to focus before AF operation. However, this is disabled with this setting.* When CF-7-1/2 is set, you must first set the lens focus switch to MF (or M) to focus manually.
Frame counter	CF-8	0	The frame counter counts up.		●	
		1	The frame counter counts down (indicates the remaining number of frames).		●	You can see how many frames are left in the roll.
		2	The frame counter in the viewfinder is displayed in the same way as the EOS-1N.	●		
AEB sequence and auto cancellation	CF-9	0	Correct exposure, underexposure, overexposure, then automatic cancellation.		●	
		1	Correct exposure, underexposure, overexposure, and no automatic cancellation.		●	AEB is not canceled even when the lens is interchanged or when the film is replaced. Therefore you can keep taking AEB shots (with the correct exposure first).
		2	Underexposure, correct exposure, overexposure, then automatic cancellation.		●	
		3	Underexposure, correct exposure, overexposure, and no automatic cancellation.		●	You can keep taking AEB shots in this sequence.

Function	CF-No.	Setting	Description	New	Old	Remarks
Focusing point flashing mode	CF-10	0	Standard mode ● Flashes when focus is achieved, lights dimly while you press the shutter button halfway after focus is achieved.		●	This applies during manual focusing point selection. During automatic focusing point selection, the focusing point does not light dimly after focus is achieved.
		1	No flashing at all.		●	If the flashing of the focusing point is annoying, you can disable it.
		2	No flashing after focus is achieved.		●	For the standard mode, this disables the focusing point from lighting dimly after focus is achieved.
		3	Flashes brightly.		●	This makes the focusing point easier to see even in bright light.
Focusing point selection method	CF-11	0	Enables the focusing point to be selected by pressing the focusing point selector and turning the Main Dial or Quick Control Dial. ● Turn the Main Dial to select a focusing point on the right or left, and turn the Quick Control Dial to select a focusing point on the top or bottom.		●	When CF-11-2 and CF-13-3 are set, turning the Quick Control Dial selects one of 8 off-center focusing points, and pressing the Assist button selects the center focusing point.
		1	Enables the focusing point to be selected by pressing the exposure compensation button and turning the Main Dial or Quick Control Dial.		●	This reverses the functions between the standard mode's focusing point selector and exposure compensation button. This enables the exposure compensation and manual exposure's aperture to be set in the same way as with the EOS-1.
		2	Turn the Quick Control Dial alone to select a left or right focusing point, and press the Assist button and turn the Main Dial to select a focusing point on the top or bottom. ● CF-11-1 operations can also be executed.		●	This setting is identical to the EOS-1N's CF-11-2 for selecting the left or right focusing point. With this setting, you can select the focusing point while pressing the shutter button halfway (or while the metering is active) or during continuous shooting in the AI Servo AF mode. The focusing point selection stops at the extreme left or right focusing point. ● During AF operation, pressing the focusing point selector enables you to switch from manual focusing point selection to automatic focusing point selection. You can thereby instantly switch to automatic focusing point selection.
		3	Enables the focusing point to be selected by pressing the FEL button and turning the Main Dial or Quick Control Dial.		●	This reverses the functions between the focusing point selector button and FEL button. The button next to the AE lock button then functions as an FEL button.
Mirror lockup	CF-12	0	No mirror lockup (normal position).		●	Effective for close-up shots and with super telephoto lenses. Mirror lockup eliminates camera vibration caused by the mirror's reflex action. A tripod is required.
		1	Mirror lockup		●	

Function	CF-No.	Setting	Description	New	Old	Remarks
Focusing point and spot metering linkage	CF-13	0	No linkage. ● Spot metering is always at the center.		●	
		1	Spot metering linked to the focusing point. ● Spot metering is linked to one of 11 focusing points selected manually.		●	The selectable focusing points are limited to 11. This makes focusing point selection faster and links spot metering to the focusing point you select. This setting is effective for spotlighted subjects on-stage, etc., when you want to control the framing of the subject.
		2	No linkage. ● Spot metering is always at the center. ● You can select only one of 11 focusing points.		●	Compared to CF-13-0, this setting makes focusing point selection faster. (* When automatic focusing point selection is used with CF-13-1/2/3, all 45 focusing points will be subject to automatic selection.)
		3	Spot metering linked to the focusing point. ● Spot metering is linked to one of 9 focusing points selected manually.	●		Compared to CF-13-1/2, this setting makes focusing point selection faster.
Automatic reduction of fill-in flash output	CF-14	0	Enabled.		●	Natural-looking fill-in flash effects are obtained automatically.
		1	Disabled.		●	Effective for backlit subjects in front of a sunset, etc., to prevent underexposure of the subject.
Shutter curtain synchronization	CF-15	0	First-curtain synchronization. ● The flash fires immediately after the shutter opens.		●	
		1	Second-curtain synchronization. ● At slow sync speeds, the flash fires immediately before the shutter closes.		●	By using a slow sync speed, you can create a light trail following a moving subject. (* Works with Speedlite 380EX and 220EX.) (* This is effective for EX-series Speedlites which do not have shutter-curtain synchronization setting capability. Speedlite 550EX has this capability and its shutter-curtain synchronization setting overrides the camera's.)
Safety shift	CF-16	0	Disabled.		●	
		1	Enabled. l Safety shift works in the shutter speed-priority AE and aperture-priority AE modes. ● If a correct exposure cannot be obtained with the shutter speed or aperture you have set, then the camera automatically shifts the shutter speed or aperture so that a correct exposure can be obtained.		●	Even if the exposure settings you have set are not suitable, the camera will automatically alter the settings to obtain a correct exposure. This feature is convenient when the scene's brightness changes suddenly.

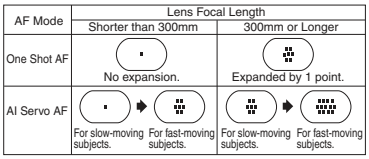
Function	CF-No.	Setting	Description	New	Old	Remarks
Manual focusing point selection range	CF-17	0	Standard		●	
		1	Expanded selection		●	The focusing point selection range expands by one point all around the manually-selected focusing point. This setting is effective when the manually-selected focusing point is unable to focus track a subject moving irregularly.
		2	Automatically-selected range		●	The camera automatically sets this focusing point selection range (as shown below) to suit the lens focal length, AF mode, and the subject's movement during predictive AF. This is effective when the subject's movement is unpredictable. 
Selection of preselected focusing point	CF-18	0	Selectable with the Assist button + Focusing point selector.	●		
		1	Selectable with the Assist button.	●		
		2	Selectable only while the Assist button is pressed.	●		
AF stop button (Works with super telephoto IS lenses)	CF-19	0	AF stop when pressed.	●		3: When the button is released, the previous focusing point is selected. 4: When pressed while in the One Shot AF mode, AI Servo AF is set. When pressed while in the AI Servo AF mode, One Shot AF is set. Toggling is possible even during shutter release. 5: The IS switch must be turned ON.
		1	AF operation when pressed.	●		
		2	AE lock when pressed while metering is active.	●		
		3	When pressed, the focusing point is selected from among the 45 points.	●		
		4	When pressed, toggles between One Shot AF and AI Servo AF.	●		
		5	When pressed, Image Stabilization operates.	●		

Table 1-7 Using CF-4 and CF-19 Together (AF start/stop operation with the EOS-1V and lens)

Operation	Result
During AF start → AF stop	AF stop
During AF stop → AF start	No AF start
During AF start → AF start	No AF start again
During AF stop → AF stop	AF stop maintained

Table 1-8 USM Electronic Ring Manual Focusing

	CF-4-0	CF-4-1	CF-4-2	CF-4-3
CF-7-0	× / ○	○ / ○	× / ○	○ / ○
CF-7-1	× / ×	○ / ×	× / ×	○ / ×
CF-7-2	× / ×	× / ×	× / ×	× / ×

* Before focus/After focus ○: USM electronic ring manual focusing enabled. ×: Disabled.

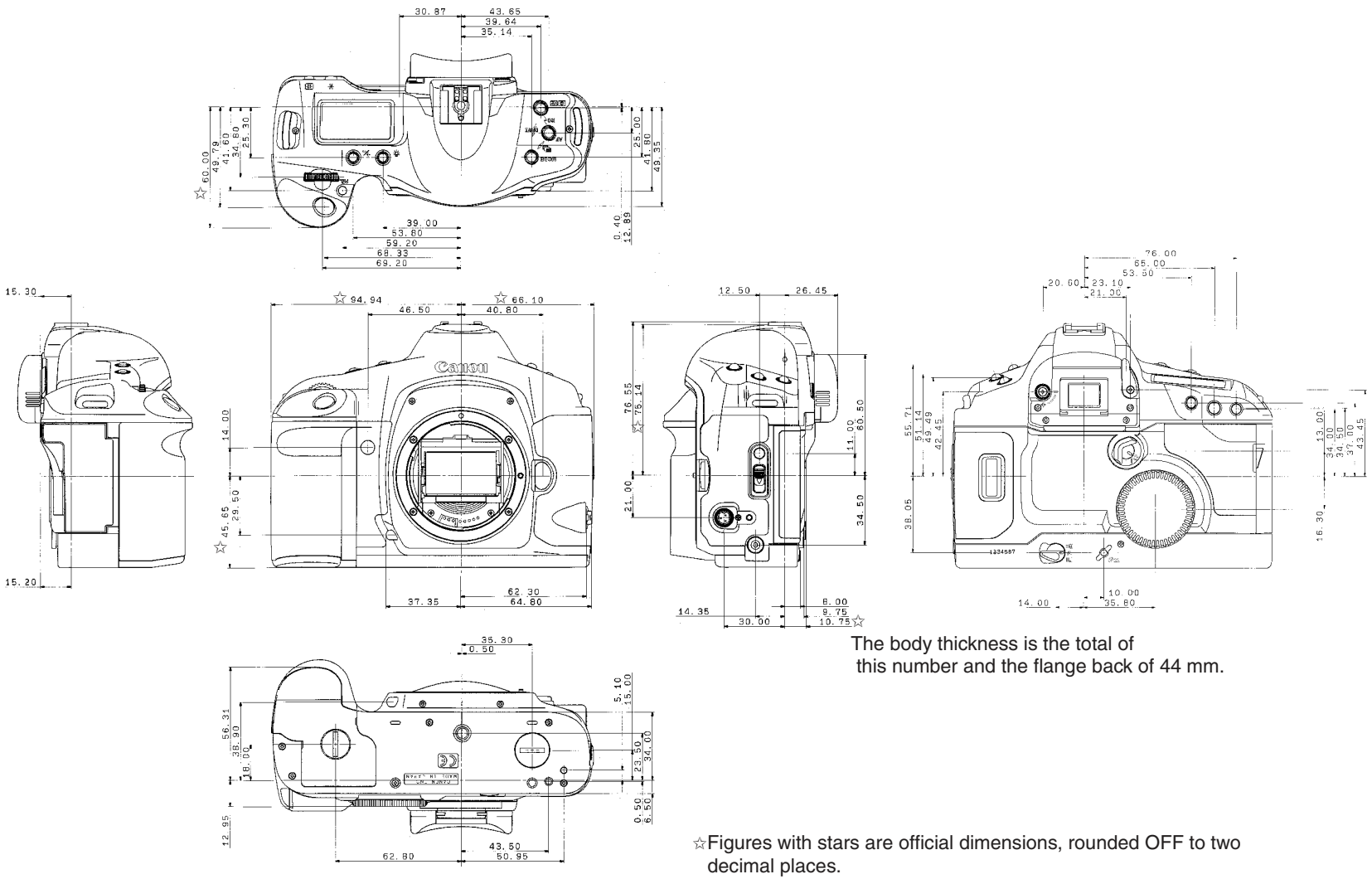

The body thickness is the total of
this number and the flange back of 44 mm.
☆Figures with stars are official dimensions, rounded OFF to two decimal places.

Fig. 1-19 Six external views

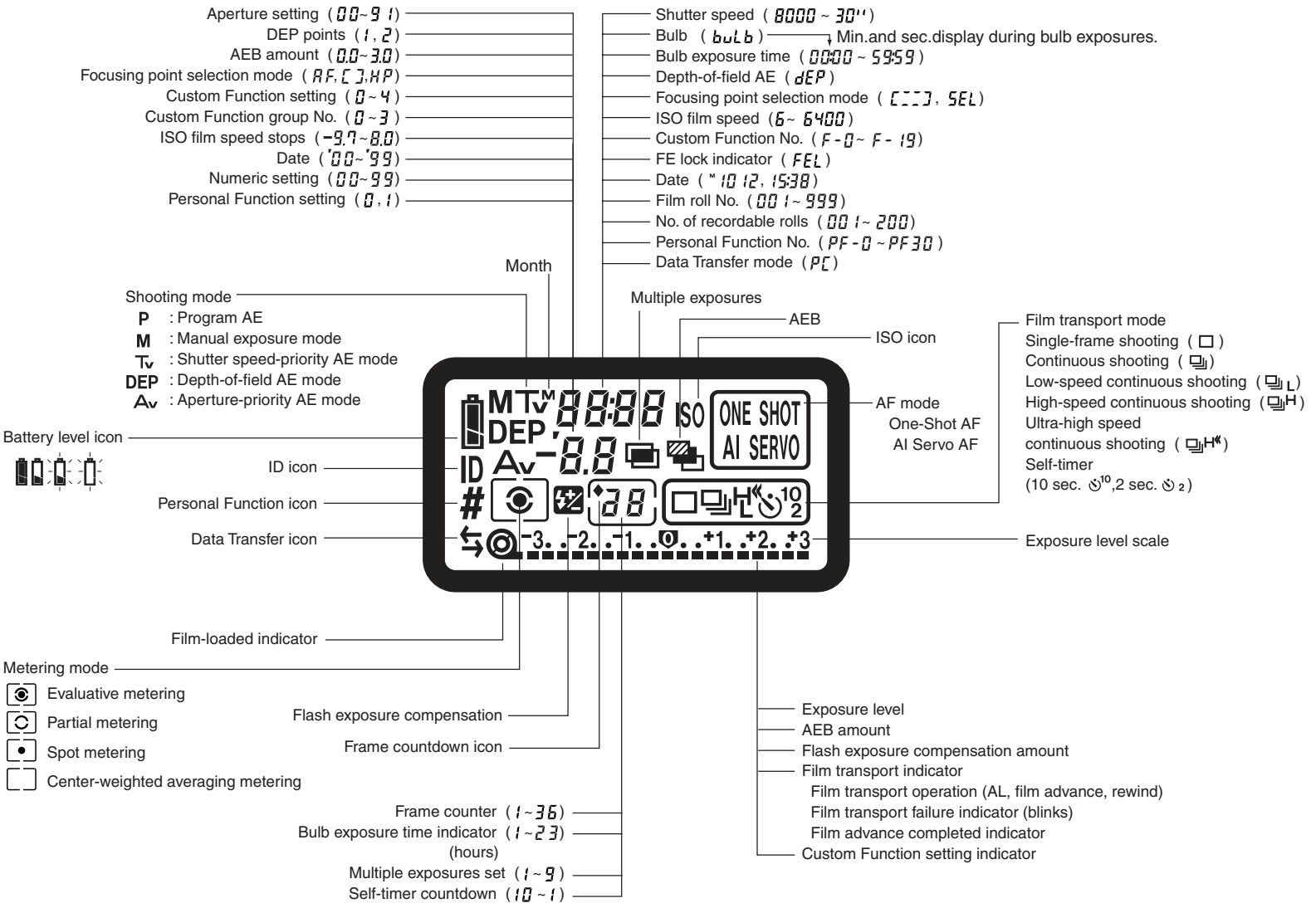


Fig. 1-20 LCD Panel Nomenclature

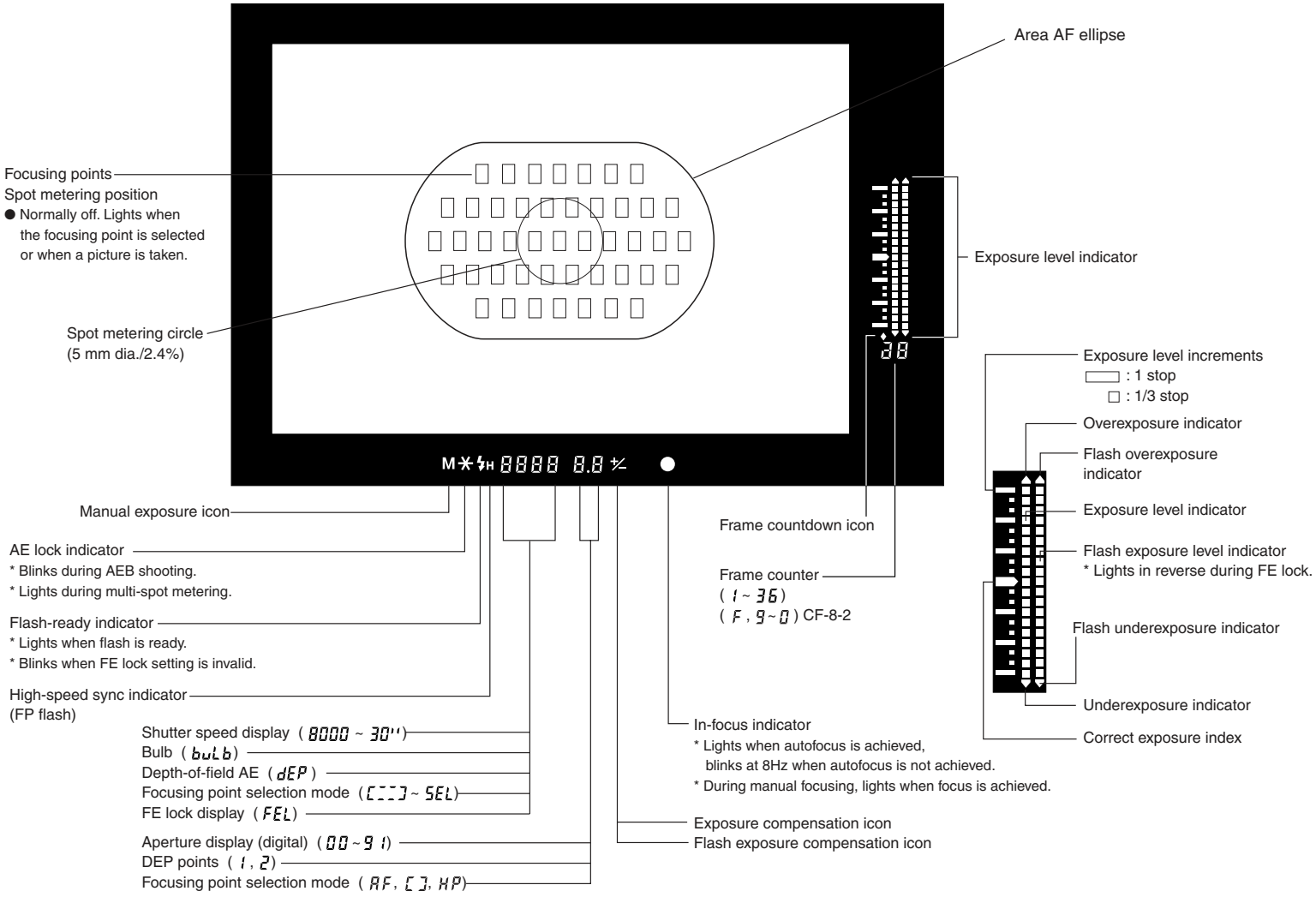

Area AF ellipse
Focusing points
Spot metering position
● Normally off. Lights when the focusing point is selected or when a picture is taken.
Spot metering circle
(5 mm dia./2.4%)
Exposure level indicator
Exposure level increments
▭ : 1 stop
□ : 1/3 stop
Overexposure indicator
Flash overexposure indicator
Exposure level indicator
Flash exposure level indicator
* Lights in reverse during FE lock.
Flash underexposure indicator
Underexposure indicator
Correct exposure index
Manual exposure icon
AE lock indicator
* Blinks during AEB shooting.
* Lights during multi-spot metering.
Flash-ready indicator
* Lights when flash is ready.
* Blinks when FE lock setting is invalid.
High-speed sync indicator
(FP flash)
Shutter speed display (8000 ~ 30'')
Bulb (bulb)
Depth-of-field AE (dEP)
Focusing point selection mode ([ ] ~ SEL)
FE lock display (FEL)
Aperture display (digital) (00 ~ 91)
DEP points (1 , 2)
Focusing point selection mode (AF , [ ], HP)
Frame countdown icon
Frame counter
(1 ~ 36)
(F , 9 ~ 0) CF-8-2
In-focus indicator
* Lights when autofocus is achieved, blinks at 8Hz when autofocus is not achieved.
* During manual focusing, lights when focus is achieved.
Exposure compensation icon
Flash exposure compensation icon

Fig. 1-21 Viewfinder Information

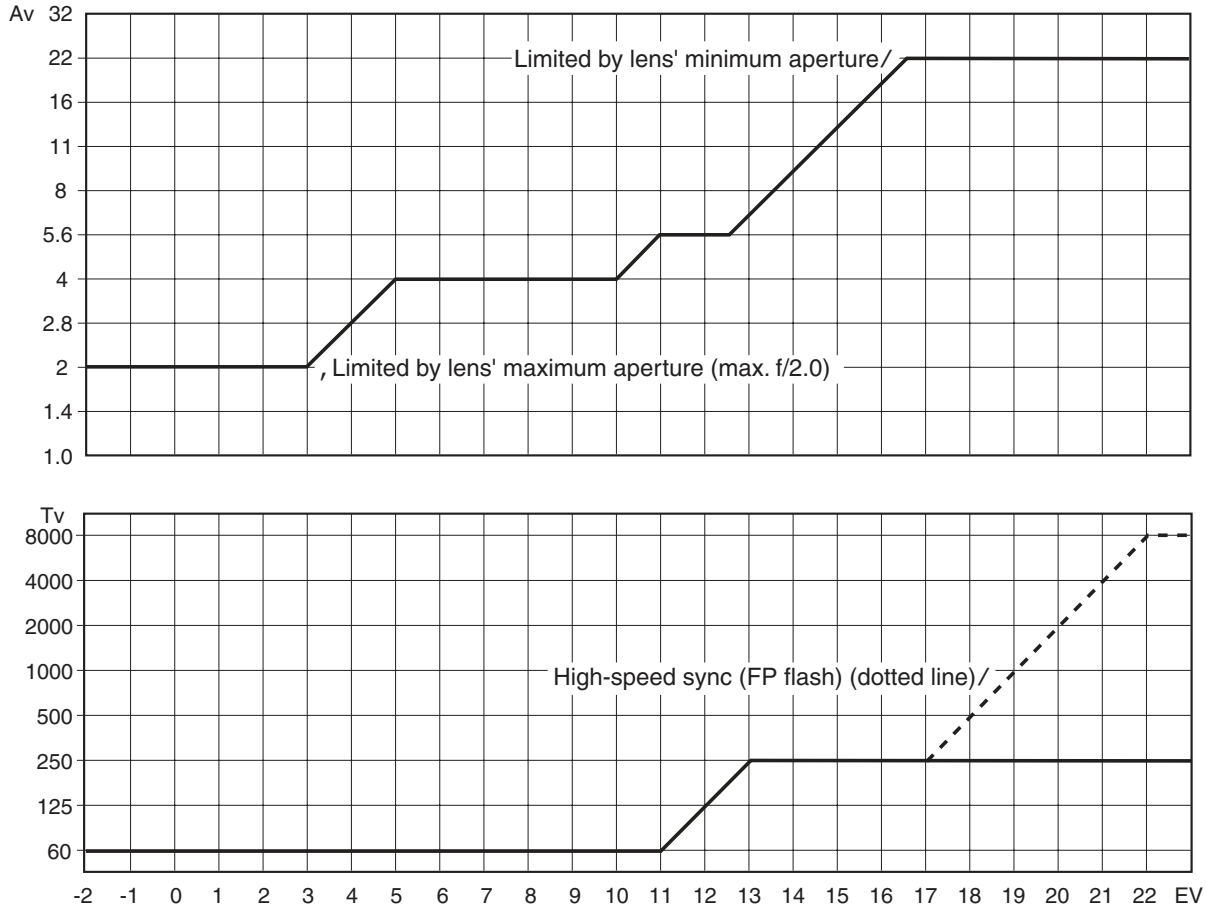


Fig. 1-22 E-TTL autoflash program line (With EF 50mm f/1.8 at ISO 100)

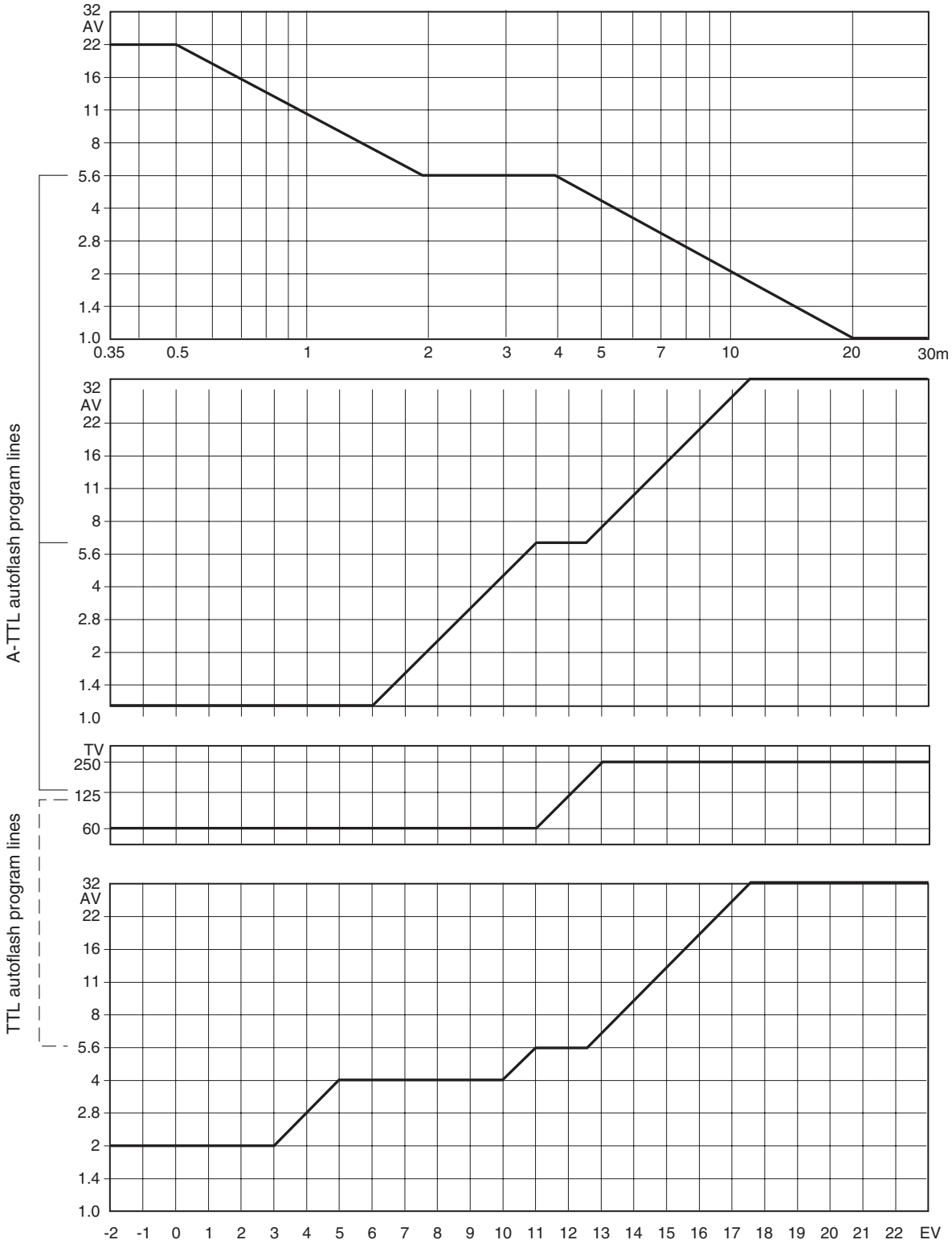


Fig. 1-23 A-TTL autoflash program lines (With EF 50mm f/1.8 at ISO 100)

5. ACCESSORIES

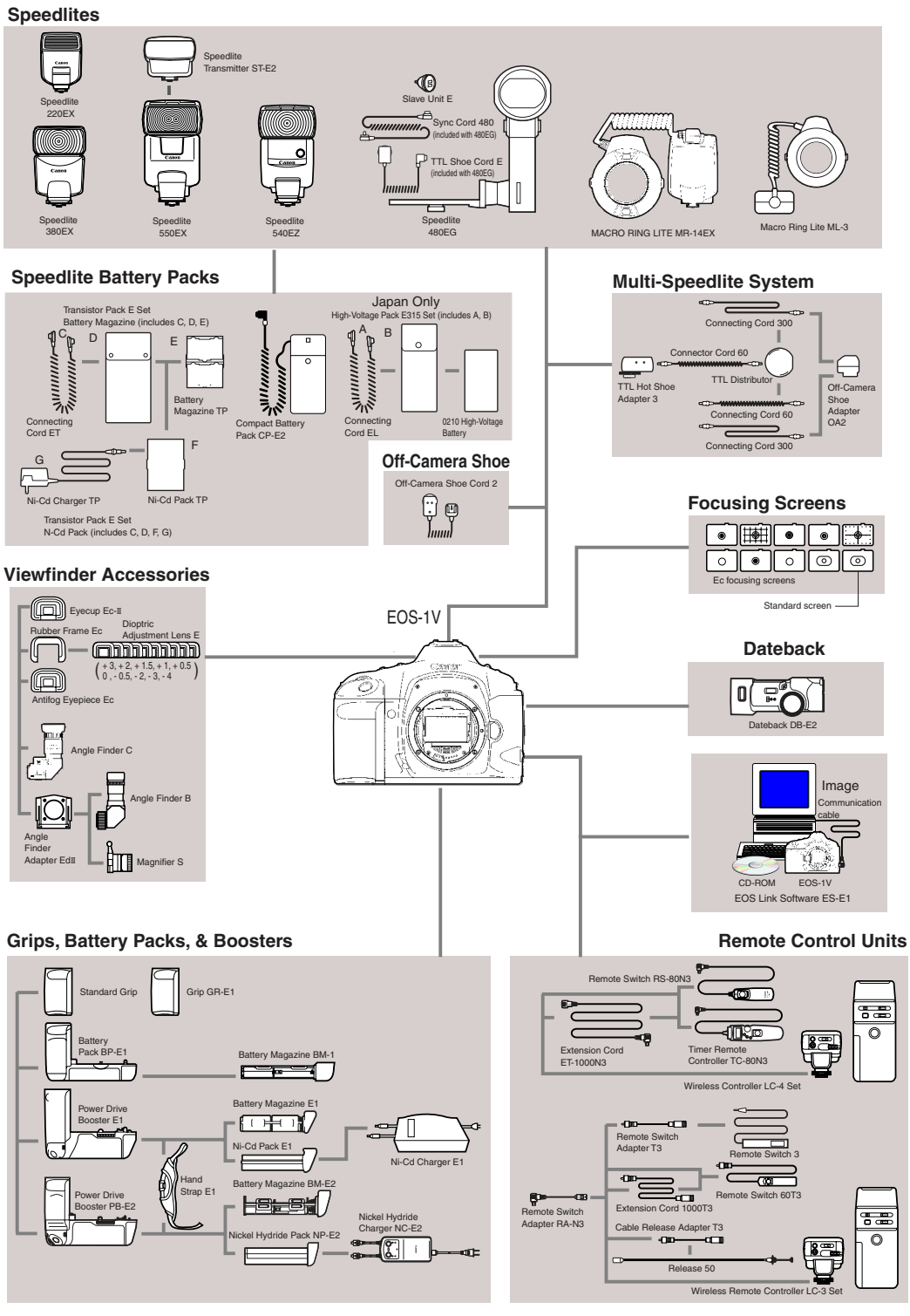


Fig. 1-24 Compatible System Accessories

◎ : Compatible.
○ : AF and EMD can be driven simultaneously.
● : Compatible under certain conditions.
× : Not compatible.

1. Compatible Single Focal Length Lenses

No	Accessory	Status	Note
1	EF 14mm f/2.8 L USM	◎	
2	EF 15mm f/2.8 FE	○	
3	EF 20mm f/2.8 USM	◎	
4	EF 24mm f/1.4 L	◎	
5	EF 24mm f/2.8	○	
6	EF 28mm f/1.8 USM	◎	
7	EF 28mm f/2.8	○	
8	EF 35mm f/1.4 L USM	◎	
9	EF 35mm f/2	○	
10	EF 50mm f/1 L USM	◎	
11	EF 50mm f/1.4 USM	◎	
12	EF 50mm f/1.8	○	
13	EF 50mm f/1.8II	◎	
14	EF 85mm f/1.2 L USM	◎	
15	EF 85mm f/1.8 USM	◎	
16	EF 100mm f/2 USM	◎	
17	EF 135mm f/2 L USM	◎	
18	EF 135mm f/2.8 SF	○	
19	EF 180mm f/3.5 L USM MACRO	◎	
20	EF 200mm f/1.8 L USM & II USM	◎	
21	EF 200mm f/2.8 L USM & II USM	◎	
22	EF 300mm f/2.8 L USM & II USM	◎	
23	EF 300mm f/2.8 L IS USM	◎	
24	EF 300mm f/4 L USM	◎	
25	EF 300mm f/4 IS L USM	◎	
26	EF 400mm f/2.8 L USM & II USM	◎	
27	EF 400mm f/2.8 L IS USM	◎	
28	EF 400mm f/5.6 L USM	◎	
29	EF 500mm f/4 L IS USM	◎	
30	EF 500mm f/4.5 L USM & II USM	◎	
31	EF 600mm f/4 L USM & II USM	◎	
32	EF 600mm f/4 L IS USM	◎	
33	EF 1200mm f/5.6 L USM	◎	
34	EF 50mm f/2.5 MACRO	○	
35	EF 100mm f/2.8 MACRO	◎	
36	MACRO PHOTO LENS MP-E 65mm F/2.8 1-5 X	◎	
37	TS-E 24mm f/3.5 L	◎	
38	TS-E 45mm f/2.8	◎	
39	TS-E 90mm f/2.8	◎	
40	Extender EF 2x	◎	
41	Extender EF 1.4x	◎	
42	Extension Tube EF12	●	*1
43	Extension Tube EF25	●	*1
44	Life-size Converter EF	◎	
45	Lens Mount Converter FD-EOS	◎	
46	Macro Lens Mount Converter FD-EOS	●	*1
47	Close-up Lens 250D	●	*1
48	Close-up Lens 500D	●	*1
49	Close-up Lens 500	●	*1

*1 Compatible with the Laser Matte focusing screen. With the New Laser Matte Ec-N and Ec-R focusing screens, the exposure level may be thrown off. Test shots are recommended.

2. Compatible Zoom Lenses

No	Accessory	Status	Note
50	EF 17-35mm f/2.8 L USM	◎	
51	EF 20-35mm f/2.8 L	◎	
52	EF 20-35mm f/3.5-4.5 USM	◎	
53	EF 22-55mm f/4-5.6 USM	◎	
54	EF 24-85mm f/3.5-4.5 USM	◎	
55	EF 28-70mm f/2.8 L USM	◎	
56	EF 28-70mm f/3.5-4.5 & II	○	
57	EF 28-80mm f/2.8-4 L USM	◎	
58	EF 28-80mm f/3.5-5.6 & II	◎	
59	EF 28-80mm f/3.5-5.6 USM & II & III & IV & V USM	◎	
60	EF 28-105m f/3.5-4.5 USM	◎	
61	EF 28-135mm f/3.5-4 IS USM	◎	
62	EF 35-70mm f/3.5-4.5 & A	○	
63	EF 35-80mm f/4-5.6 & PZ & II & III	◎	
64	EF 35-80mm f/4-5.6 USM	◎	
65	EF 35-105mm f/3.5-4.5	○	
66	EF 35-105mm f/4.5-5.6	◎	
67	EF 35-105mm f/4.5-5.6 USM	◎	
68	EF 35-135mm f/3.5-4.5	○	
69	EF 35-135mm f/4-5.6 USM	◎	
70	EF 35-350mm f/3.5-5.6 L USM	◎	
71	EF 38-76mm f/4.5-5.6	◎	
72	EF 50-200mm f/3.5-4.5	○	
73	EF 50-200mm f/3.5-4.5 L	○	
74	EF 55-200mm f/4.5-5.6 USM	◎	
75	EF 70-200mm f/2.8 L USM	◎	
76	EF 70-200mm f/4 L USM	◎	
77	EF 70-210mm f/4	○	
78	EF 70-210mm f/3.5-4.5 USM	◎	
79	EF 75-300mm f/4-5.6 & II & III	◎	
80	EF 75-300mm f/4-5.6 USM & II USM & III USM	◎	
81	EF 75-300mm f/4-5.6 IS USM	◎	
82	EF 80-200mm f/2.8 L	◎	
83	EF 80-200mm f/4.5-5.6 & II	◎	
84	EF 80-200mm f/4.5-5.6 USM	◎	
85	EF 100-200mm f/4.5 A	○	
86	EF 100-300mm f/4-5.6 USM	◎	
87	EF 100-300mm f/5.6	○	
88	EF 100-300mm f/5.6 L	○	
89	EF 100-400mm f/4.5-5.6 L IS USM	◎	

3. Speedlites

No	Accessory		Status	Note
1	550EX		◎	
2	Speedlite Transmitter ST-E2		◎	
3	220EX		◎	
4	380EX		◎	
5	540EZ		◎	
6	480EG system		◎	
7	430EZ		◎	
8	420EZ		◎	
9	300EZ		◎	
10	200E		◎	
11	160E		◎	
12	Macro Ring	ML-3	◎	
13	Lite	MR-14EX	◎	
14	Multi-Speedlite System (Wired)		◎	

4. EOS Camera Cases

No	Accessory	Status	Note
1	EOS-3 case	◎	
2	EOS 650 & EOS 620 cases	×	
3	EOS-1 cases	×	
4	EOS 5/A2/A2E cases	×	
5	EOS 100/ELAN cases	×	
6	EOS 500/Rebel X cases	×	
7	EOS-1N cases	×	
8	EOS 50 E/ELAN II E cases	×	
9	EOS IXE cases	×	

5. Remote Control

No	Accessory		Status	Note
1	Remote Switch	RS-80N3	◎	
2		60T3	●	*2
3		RS-60E3	×	
4	Remote Controller	RC-1	×	
5		LC-3	●	*2
6		LC-4	◎	
7	Timer Remote Controller TC-80N3		◎	

*2 Usable with the Remote Switch Adapter RA-N3.

6. Grips and Motor Drives

No	Accessory		Status	Note
1	Grips	GR10	×	
2		GR20	×	
3		GR50(EOS750,850)	×	
4		GR60(EOS10)	×	
5		GR70(EOS1000)	×	
6		GR-80TP (EOS Rebel X/Rebel XS/500/Kiss, 888/5000, Rebel G/500 N/New EOS Kiss)	×	
7		GR-E1	◎	
8	Vertical Grip VG10 (EOS A2/A2E/5)		×	
9	Battery Pack	BP-5 (EOS A2/A2E/5, Elan II/Elan II E/50/50 E/55)	×	
10		BP-8 (EOS Rebel X/Rebel XS/500/Kiss, 888/5000, Rebel G/500 N/New EOS Kiss)	×	
11		BP-200 (EOS Rebel 2000/300)	×	
12		BP-50 (EOS Elan II/Elan II E/50/50 E/55)	×	
13		BP-E1 (EOS-1, 1N)	◎	
14	Power Drive Booster	PDB-E1	◎	
15		PB-E2	◎	

7. Viewfinder Accessories

No	Accessory		Status	Note
1	Eyecup	E (650,620)	×	
2		Eb (750,850)	×	
3		Ec (EOS-1)	◎	
4		Ec-II (EOS-IN)	◎	
5		Ed (EOS5,3)	×	
6		Ed-E (EOS5,3)	×	
7	Dioptric Adjustment Lenses	E (10 types)	◎	
8		Ed (EOS5,55,3)	×	
9		Ee (EOSIXE)	×	
10	Rubber Frame Eb	Eb	×	
11		Ec (EOS-1)	◎	
12		Ed (EOS5,3)	×	
13	Focusing Screen	E (7 types)	×	
14		Ec (11 types)	◎	
15		Ed (6 types)	×	
16	Antifog Eyepiece	Ec (for EOS-1N)	◎	
17		Ed (for EOS-3)	×	
18	Angle Finder	C	◎	
19		B	◎	
20		Adapter Ed	◎	
21		Adapter EdII	×	
22	Magnifier S		◎	
23	Eyepiece Extender EP-EX15		×	

8. Databacks

No	Accessory	Status	Note
1	Databack DB-E2	◎	
2	Quartz Dateback E	×	
3	Technical Back E	×	
4	Keyboard Unit TB	×	
5	Interface Unit TB	×	
6	Command Back EOS-1N	×	

9. PC Link

No	Accessory	Status	Note
1	EOS Link Software ES-E1	◎	

10. Filters

No	Accessory		Status	Note
1	Circular Polarizing Filter	PL-C52mm	◎	
2		PL-C58mm	◎	
3		PL-C72mm	◎	
4		PL-C77mm	◎	
5	Drop-in Circular Polarizing Filter	PL-C52	◎	
6		PL-C48mm	◎	
7	Drop-in Gelatin Filter	Holder II	◎	
8		Holder 52	◎	
9	Drop-in Threaded Filter Holder 52		◎	
10	Gelatin Filter Holder	E52,58,72,77mm	◎	
11		III / IV	◎	
12		ADIII / IV 52,58,67,72,77mm	◎	
13		Hood III/IV	◎	

11. Misc.

No	Accessory	Status	Note
1	Panorama Adapter PA-1000	×	

6. COMPARISON WITH COMPETING MODELS

Item	Camera		EOS-1V	Nikon F5	Minolta alpha 9
AF	Focusing Area		45-point Area AF	+ ∓ +	| + |
	High-precision Focusing (f/2.8)		○ (7 points at center)	—	—
	Predictive AF Performance at 50 kph (300mm f/2.8)		8 m, 9 fps	8 m, 8 fps	9 m, 4.5 fps
	Focusing Point Selection	Manual/Auto	○ / ○	○ / —	○ / ○
		Memory/Shift	○	—	—
		Multi-point Tracking	○	○	○
	Working Range (EV)		0 - 18	-1 - 19	-1 - 18
View finder	Pentaprism		Fixed pentaprism	Interchangeable pentaprism	Fixed pentaprism
	Coverage (%) / Magnification		100% / 0.72x	100% / 0.75x	100% / 0.73x
	Eye Relief (mm)		20	20.5	22.1
	Dioptric Correction (dpt)		-3 to +1 dpt	-3 - +1	-3 - +1
	Eyepiece shutter		○	○	○
Metering	Evaluative		21	1005	14
	Centerweighted Averaging		○	○	○
	Spot		○ (11 points, linked to 9 points (2.4%)	○ (linked to 5 points [1.5%])	○ (2.8%)
	Multi-spot		○	—	—
	Metering Range (EV at 20°C)		0 - 20	0 - 20	0 - 20
Exposure Control	Tv, Av, Program, M		○	○	○
	Depth-of-field AE		○	—	—
	Exposure Control	Manual/AEB	○ / ○	○ / ○	○ / ○
		Increments	±3, 1/3, <1/2>	±5. 1/3	±3. 1/3
	Multiple Exposures		○ (9)	○ (Unlimited)	○ (Unlimited)
Shutter	Range		30 sec. - 1/8000 sec., X-sync: 1/250 sec.	30 sec. - 1/8000 sec., X-sync: 1/250 sec.	30 sec. - 1/12000 sec., X-sync: 1/300 sec.
	Durability		150,000 cycles	150,000 cycles	100,000 cycles
Flash Control	TTL Flash Control		E-TTL, A-TTL, TTL	3D Multi-sensor BL	Dual interactive
	Focusing Point Linkage		○ (21 zones or 3 zones)	○ (5 segments)	○ (4 segments)
	FP Flash		○	○	○
	FE Lock		○	—	—
	FEB		○	○	○
	Flash Exposure Compensation w/Camera		○	—	○
	Wireless Multi-Speedlites		○ Flash ratio range: 8:1 - 1:8	—	○ Flash ratio: 2:1, 1:1, 1:2
Film Transport	Silent Film Advance/Rewind		— / ○	○ / ○ (Manual)	— / ○
	Shooting Speed (fps)	Standard	3.5	3	2
		Max. Speed	10	8	5.5
	Rewind Time (36-ex.)		8 sec. (Silent mode: 18 sec.)	4	6
	Infrared Film Compatibility		○	○	
	Battery Life (Rolls) at 20 C/Low C		50 / 12 (-20°C)	90 / 10 (-10°C)	30 / 28 (-20°C)
	Film ID Imprinting		○ (Built-in)	With MF-28 back (sold separately)	With DM-9 back (sold separately)
Power Source	Main Power Source		2CR5	Size-AA alkaline × 8	CR123A × 2
	High-Speed Film Advance Power Source		Nickel hydride battery pack	Nickel hydride battery pack	—
	Separate Battery Pack		2CR5 & size-AA × 4	—	CR123A, 2CR5, size-AA
Custom Functions/Groups			20/3	24 / 2	21 / —
Shooting Data Recording/Viewing			○ / ES-E1	○ /with software and PC	○ /with software, PC, & camera
Camera Control with PC			△	○	—
Dimensions (W × H × D) (mm)			161 × 120.8 × 70.8	158 × 149 × 79	155 × 111 × 75
Weight (excluding batteries) g			945	1210	910
Marketing Date			2000	1996.10	1998.09
Price in Japan (yen)				325,000	250,000

* Settings in < > apply when a Custom Function is set.

7. OPERATION CAUTIONS

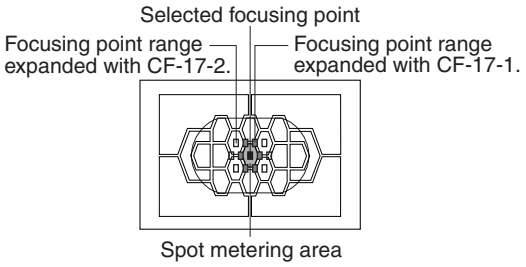
◇ : Items which are different from the EOS-1N's.
□ : Items which also apply to the EOS-1N.
■ : Items to be mentioned in the Instructions.

No.	Cautions	Remarks
◇ ■	1. Be sure to set CF-0 to either 0 or 1 to suit the focusing screen.	The camera has two types of compensation data to suit the two types of focusing screens. Therefore, if the setting is wrong, an exposure error will result.
◇ ■	2. For CF-0, the CF button must be held down at least 2 sec. to set 0 or 1.	CF-0 is for changing the focusing screen's compensation value and for preventing a wrong setting to be set accidentally.
◇ ■	3. Even if the CLEAR button is pressed immediately after the CF button is pressed, CF-0 will not be cleared.	This prevents the focusing screen compensation data from being cleared unnecessarily when the Custom Function settings are cleared.
□ ■	4. If CF-6-1 is set for whole-stop increments with Tv and Av settings, the aperture reading on the camera may differ from the Speedlite's.	The accuracy of the information transmitted between the camera and Speedlite is 1/8 stop. When a whole-stop display is used, different readings may be unavoidable.
□ ■	5. When CF-12-1 is set and mirror lockup is in progress, do not point the camera toward the sun or any other bright light.	This is to prevent burn-in of the shutter curtains and light damage.
□	6. When CF-12-1 is set and mirror lockup and the self-timer are used together, the mirror will lockup when the shutter button is pressed completely the first time. After the self-count, the film is exposed and the mirror returns.	As per the design.
□ ■	7. With CF-12-1's mirror lockup, self-timer, and bulb exposure set together, the mirror will lockup when the shutter button is pressed completely the first time. After the self count, the exposure starts (front curtain starts). When the shutter button is released, the exposure ends (rear curtain starts) and the mirror returns. If the shutter button is released from a complete pressing during the self count, the shot will be canceled. The shutter curtains close and the mirror returns. The film does not advance.	As per the design.
□ ■	8. When PB-E2 or PDB-E1 is attached to the camera, align the positioning guide pin and screw. Keep the camera bottom, PB-E2, and PDB-E1 mounting surfaces parallel and tighten the knob.	If the positioning guide pin is first inserted and then the knob screw is aligned with the socket, proper attachment will not result. The electrical contacts will not connect properly and proper operation will not occur.
□ ■	9. Do not touch the electrical contacts on the PB-E2, PDB-E1, and EOS-1V.	Doing so may cause faulty connections and the camera may not operate properly.

□	10. When automatic focusing point selection, AI Servo AF, and continuous shooting are used in combination, the continuous shooting speed may become irregular if the subject moves to another focusing point.	If the subject moves from one focusing point to another, focusing might be disrupted for an instant. It takes time to refocus. (Same as with EOS-1N).
□ ■	11. With interchangeable focusing screens Ec-A, Ec-B, Ec-I, and Ec-L, only spot metering or centerweighted averaging metering can be used.	The focusing screen's prism at the center is clear. Therefore, evaluative, partial, focusing point-linked spot metering (A0: center used) may result in error.
□ ■	12. When using spot metering during continuous shooting, the first shot will be used for AE lock and subsequent frames will be based on the AE lock of the first image. Even with single-frame shooting, pressing the shutter button completely during film advance will retain the previous AE lock setting.	Designed to suit the actual picture-taking conditions. It is not necessary to release the shutter button from the halfway position first to take the next picture.
□ ■	13. To remove the focusing screen from the camera, turn the lens mount upward and release the locks for the screen's frame.	If the lock is released while the camera is upright on a table, the screen will bound when it drops to the replacement position. The resulting shock may cause the screen to jump out.
□ ■	14. If AI Servo AF is set for flash photography, the Speedlite's built-in AF-assist beam will not be emitted. (In the One-Shot AF mode, the beam is emitted automatically when necessary.)	Since it does not match predictive AF very well, this has been incorporated in the design. One-Shot AF is recommended for flash photography.
□ ■	15. When Battery Pack BP-E1 is attached, size-AA lithium batteries cannot be used.	New lithium batteries initially have a high effective voltage which may damage electronic circuits in cameras and lenses.
◇ ■	16. With the 550EX attached, the FEB shooting sequence follows the 550EX's settings instead of the CF-9 (AEB sequence change).	For flash exposure compensation, the Speedlite takes priority. This is to prevent confusion on FEB and give the Speedlite priority.
◇	17. The AEB sequence is different from the EOS-1N's (including CF-9). The standard sequence is 0, -, and +. With the Custom Function, it is -, 0, +.	With the EOS A2/A2E/5 and later EOS cameras, the AEB sequence starts with a correct exposure (0, -, +). This gives the user a better chance of capturing a great picture. The EOS-1N's AEB sequence is based on the EOS-1's with -, 0, and +. There are plans to apply this AEB bracketing sequence to APS cameras as well. Canon's AEB bracketing sequence will be standardized to 0, -, +.
◇ ■	18. When date imprinting is enabled during continuous shooting, the continuous shooting speed will be slower.	This is due to the time it takes to imprint the date. Approx. shooting speed (fps) with One Shot AF at 20°C with a new battery:

Film Speed	With EOS-1V Only	EOS-1V + PB-E2	
		NP-E2	BM-E2
ISO 160 or higher	3.5	6	6
ISO 80-125	3.5	5	5
ISO 64 or lower	2.6	3	3
No imprinting	3.5	10	6

◇■	19. When the focusing point is camera-selected (automatic), focus aid will apply only to the center focusing point.	Sometimes the user will not know which focusing point is active. The wrong focusing point might also be active. Focus aid fixed at the center focusing point is therefore best.
◇	20. If the 550EX, MR-14EX fails to recharge fast enough during continuous shooting with FEB, the shutter release locks. After the shutter button is released from the fully depressed position, AE metering takes effect before the flash is ready.	Normally, AE metering takes effect if the Speedlite is not ready. If during FEB continuous shooting the flash fails to recharge and AE takes immediate effect, the AE-metered picture in the shooting sequence would look unnatural.
◇■	21. If the lens focal length is 85mm or longer, the 550EX and ST-E2's AF-assist beam pattern spacing will look wider. Therefore, some of the 45 focusing points will not be covered by the AF-assist beam.	The center focusing point must be selected for focusing.
◇■	22. When the camera is shaken, the camera orientation switch will make a sound.	As per the design.
◇■	23. With a EF 70-200mm f/2.8L USM and EXT. 1.4x attached to the camera, the center focusing point must be used for AF.	Although focusing is possible at all 45 focusing points, the focusing precision is guaranteed only at the center focusing point.
■	24. To register a focusing point, the Assist button and FE lock button are pressed simultaneously. In this case, the Assist button should be pressed before the FE lock button.	During AE, either button may be pressed first. However, when a Speedlite is used and the flash is ready, pressing the FE lock button first will result in FE lock and the focusing point selection mode will be canceled. The focusing point will not be registered.
■	25. If the film ID No. has been imprinted on slide film and you want the slides to be mounted, be sure to request the lab to return the film leader together with the mounted slides. Some labs discard the film leader.	
■	26. In low temperatures, imprinting the film ID takes longer. Since taking a picture while the film ID is being imprinted (indicated by the ID mark displayed on the LCD panel) may prevent the ID from being imprinted, you must wait until the ID mark turns off. From the time the camera back is closed and the imprinting is completed, it takes a maximum of about 2 sec. in -10°C and about 8 sec. in -20°C.	In low temperatures, the response of the liquid crystal is slower. Film ID imprinting is assured from -10°C to 45°C.
■	27. If the shutter button is pressed completely while the film ID is being imprinted, the imprinting will be canceled and frame 1 will be exposed.	Due to shutter release-priority, pressing the shutter button overrides the film ID imprinting. Depending on the timing of the shutter release, the film ID imprinting might be light or indiscernible. At 20 C, imprinting is completed within 180 ms after the film loads. Therefore, there is hardly any waiting time until the imprinting is completed and frame 1 can be exposed almost immediately.

■ 28. Although infrared film can be used with the camera, slight fogging will occur along the edges outside the picture area.	As per the design.
■ 29. Be aware that the Ec-N (standard on the EOS-3) focusing screen looks the same as the EOS-1V's standard focusing screen even though the former is a New Laser Matte screen and the latter is a Laser Matte screen. Be sure not to set the wrong CF-0 setting.	The EOS-1V's standard focusing screen can be distinguished by the C III mark on the protruding tab.
■ 30. If a roll of film already partially exposed with the EOS-1V is rewound in midroll and then reloaded in the EOS-1V again, a new film ID will be imprinted over the old one.	The camera cannot distinguish between a new roll of film and a partially exposed one.
■ 31. When CF-13 and CF-17 have been set and focus is achieved with a focusing point other than the one selected, spot metering might not cover the subject whose magnification is low. The same applies to center spot metering and CF-17.	Fig. 23 Spot metering with CF-17 focusing point 
■ 32. Do not attached the EOS-1V's camera back to the EOS-3.	The camera back's inner part will hit against the EOS-3's film transport detector and the camera will be unable to close completely. The camera back also cannot be attached to the EOS-1 and EOS-1N due to the different hinge length.
■ 33. C.Fn-0 cannot be registered in a Custom Function group.	The EOS-1V's C.Fn-0 is set to C.Fn-0-1 as the default setting to suit the standard Lasermatte focusing screen that comes with the camera. However, when the Custom Functions are reverted to the default settings with the EOS Link Software ES-E1, they will all be C.Fn-*-0. So if the user forgets to set C.Fn-0-0 back to C.Fn-0-1, exposure error will occur. This is prevented by excluding C.Fn-0 from any Custom Function group.

The following must be mentioned in the EOS Link Software ES-E1 Instructions.

■	34. All 20 optional shooting data items cannot be selected and stored.	As per the design.
■	35. Before the date and time can be set with the EOS-1V, the date and time must be set with the EOS Link Software ES-E1 the first time.	Since this feature is only for EOS Link Software ES-E1 users, the date and time must initially be set with EOS Link Software ES-E1. Otherwise, the date setting mode cannot be set even when the menu button is pressed.
■	36. Although the year is recorded in four digits according to the Gregorian calendar, the EOS-1V can only set the year with the last two digits.	The LCD panel's two-digit aperture display is used to display the year.
■	37. To store date-related shooting data, the date must be set beforehand.	The date is not set upon shipment.
■	38. If the number of multiple exposures is extremely large, data can be recordable for fewer subsequent rolls of film.	Shooting data is recorded for each multiple exposure. For example, if 36 multiple exposures are taken for one frame, the amount of data recorded will be the same as for a 36-exposure roll of film.

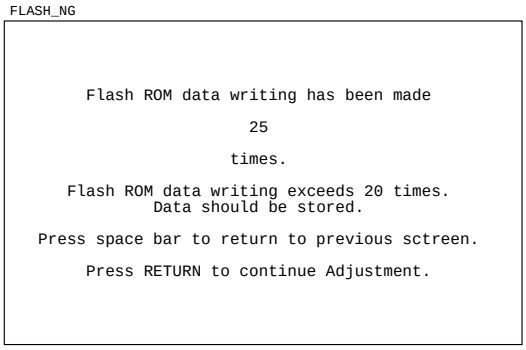
Part 4

Electrical Adjustments

1. ELECTRICAL ADJUSTMENTS

1.1 CAUTIONS

- The EOS-1V's FPU IC has a flash ROM. The flash ROM has a limited durability (rewriteable up to 20 times officially and over 50 times in actuality). If it is written excessively, it may damage the FPU. If the screen on the right appears, do not rewrite the data needlessly. The camera's FPU firmware, basic AF adjustments, and exposure program are written in the flash ROM.


FLASH_NG
Flash ROM data writing has been made
25
times.
Flash ROM data writing exceeds 20 times.
Data should be stored.
Press space bar to return to previous sctreen.
Press RETURN to continue Adjustment.

- When data is written in the flash ROM a number of times, the output may decrease. To restore the output to normal, select "F10: Exit" to refresh the flash ROM. Since refreshing the flash ROM overwrites the data, it does not deteriorate the flash ROM.

- The EOS-1V adjustment software program requires about 800 KB of disk space. Each time the camera's data is read, more disk space is consumed. Data (all data, AF data only, data except the AF data, or EOS Link data) transferred from up to five EOS-1V cameras can be stored. Storing all the data from five cameras will require over 2 MB of disk space. Before using the adjustment software, first install it in the personal computer's hard disk. (It can run on a 1.4 MB disk, but an error will occur when the disk space runs out.) To install the software in a Windows 95/98 system, refer to the Service Manual Report AG1-054.

- Install the adjustment software onto the hard disk. This is to facilitate the data transfer of the front panel unit or camera's firmware. It will also make the adjustment faster.

- If the HS-I/F is used, additional memory is required. Install the Expanded Memory Unit (CY9-7082-002). Installation instructions are included with the unit.

- With earlier EOS cameras, the AF unit alone could be replaced. However, as with the EOS-3, this is not possible with the EOS-1V. If the AF unit must be replaced, the front panel must be replaced. Aging has been executed for the spare front panel units, but not basic AF adjustments.

- New main flexible board units are already written with initialization data. Therefore initialization is not necessary.

1.2 DESCRIPTION OF ELECTRICAL ADJUSTMENTS

Shutter adjustment	Shutter speed adjustment.
SPC positioning	Adjustment and check of AE sensor position.
AE adjustment	Adjustment of the AE sensor's output.
AE shift	Enables exposure shifting in 1/8-stop increments to suit customer preferences.
Basic AF adjustments	Adjustment to optimize the AF sensor's output.
AF focusing adjustment	Adjustment to set the optimum focusing position.
Image data output	The AF sensor's output data is used for waveform and chart setting and to check the AF precision.
Defocus output	Displays the focusing data.
Simple check of AF sensor	Execute a simple check of the AF sensor.
AF sensor cleaning	This is to clean the AF sensor.
Flash metering adjustment	TTL and E-TTL adjustments and flash metering sensor output adjustment.
Inhibit voltage adjustment	Sets the camera's inhibit voltage.
Display adjustment	Adjusts the position and brightness of the superimposed display.
Self check	Lights the entire LCD, clears error codes, and displays the error No.
Data transfer	Enables camera data initialization, data saving, and data transfer.
FPU firmware transfer	Used when the FPU program is to be upgraded.
Temperature adjustment	Adjusts the camera's temperature sensor.
Shot count reset	Clears the shutter counter or sets the desired shot count.

1.3 ADJUSTMENTS AFTER PARTS REPLACEMENT

Data Transfer	Shot Counter Reset		▲		▲					
	FPU Firmware									
Display	SI Brightness Adjustment									
	SI Position Adjustment					●1				
Self Check	Error No. Display									
	Error Code Clearing									
	LCD Check									
Flash Exposure	E-TTL Level Check									
	E-TTL Level Adjustment									
	Basic E-TTL Adjustments	●9								
	TTL Level Adjustment									
	Basic TTL Adjustments	●8		●3						
AF	Front Panel Operation Count Reset									
	AF Cleaning									
	AF Self Check									▲
	Focusing (Overall)	●7		●2						
	Basic	●6		●1						
AE	Exposure Program Rewriting									
	Shift									
	Precision	●5	●2							
	SPC	●1	●1	▲						
Shutter	Curtain Closing Check/Adjustment									
	Shutter Adjustment/ Curtain Closing Adjustment	●4			●1			●1		
Inhibit Voltage	PDB									
	2 CR5									
	Overall Correction	●3					▲			
Temperature Correction compensation		●2								
Initialization		▲								
		Main Flexible Board CG1-3740 (No data reading)	Main Flexible Board CG1-3740 (Data reading)	Front Panel Unit (CG1-3710)	Shutter Unit (CG1-3707)	SLC Unit (CG1-3737)	System Connector Unit (CG1-3728)	Shutter Curtains CY3-1235 CY3-1236		AF Focusing Inspection

Notes: ▲ Execute only when necessary.
Execute temperature correction immediately after initialization.

1.4 ADJUSTMENT SOFTWARE FOR THIS CAMERA

1) Adjustment Software Start-up

CAUTION If the HS-I/F is used, the memory must be increased.

The adjustment software's file name is EOS1V.EXE. If a work disk is made, the software will start-up automatically with the AUTOEXEC.BAT file.

NOTE: If a transmission error occurs frequently, decrease the transmission speed by typing "EOS1V /9" (type a space before the slash) and pressing Return when the program starts up. This is to make errors less prone to occur.

2) Operating the Adjustment Software

You can execute most adjustment software operations with the Return (or Enter) key, space bar, and cursor keys. Just follow the on-screen instructions.

3) Tools

The adjustment software is compatible with both Multiple Tool II and HS-I/F. Although this manual and the software's on-screen instructions will refer to Multiple Tool II, HS-I/F can also be used instead of Multiple Tool II. However, the HS-I/F will require additional memory (CY9-7082-002).

4) Connecting the Camera to Multiple Tool II or HS-I/F.

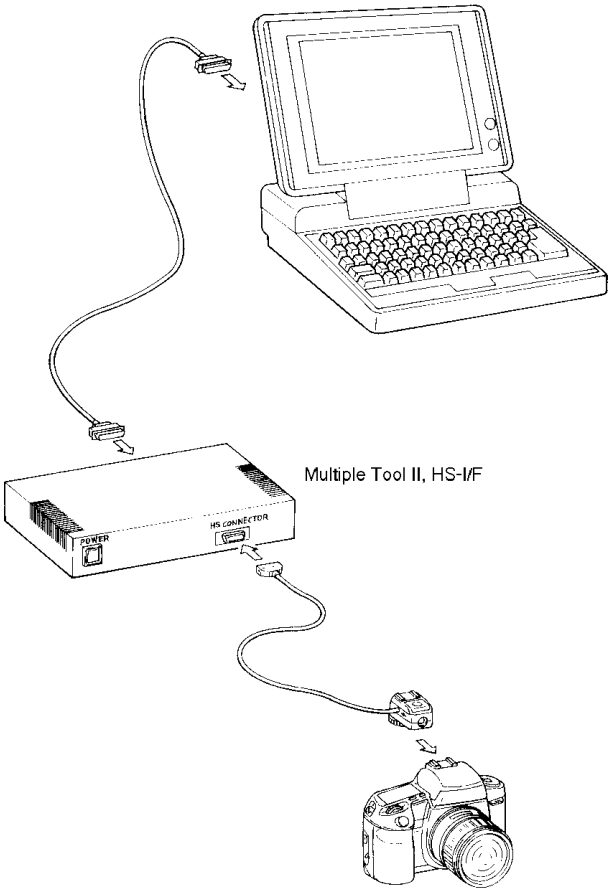
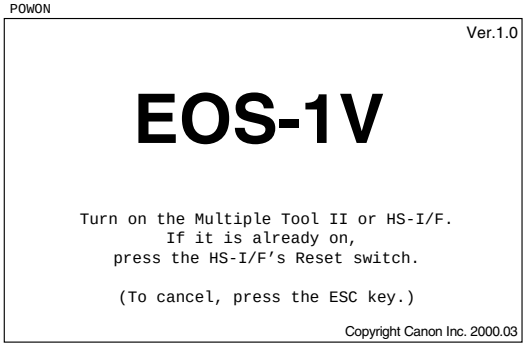


Fig. 4-1 Connecting the camera to a personal computer.

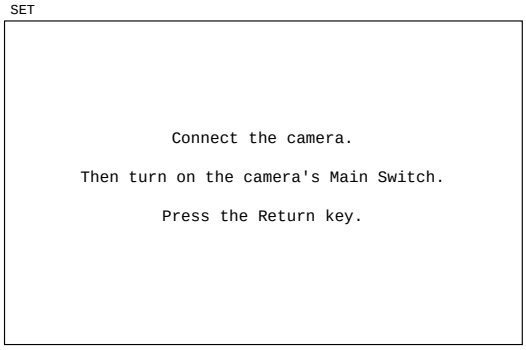
5) Start-up Procedure

Insert the work disk into the personal computer and turn on the personal computer. The screen shown on the right will appear. If the software has been installed on the hard disk, type “EOS1V.”



Follow the on-screen instructions and turn on Multiple Tool II or HS-I/F. If it has already been turned on, turn it off and on again.

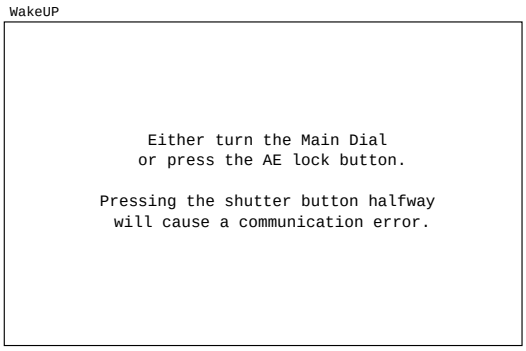
When the personal computer has been connected to Multiple Tool II or HS-I/F, the adjustment software will display the screen on the right.



Follow the on-screen instructions to connect the camera, then turn on the camera’s main switch.

After the connection is completed, press the Return key.

To communicate with the camera, it may be necessary to turn the camera’s Main Dial to turn on the camera. Just follow the adjustment software’s on-screen instructions.


WakeUP
Either turn the Main Dial
or press the AE lock button.
Pressing the shutter button halfway
will cause a communication error.

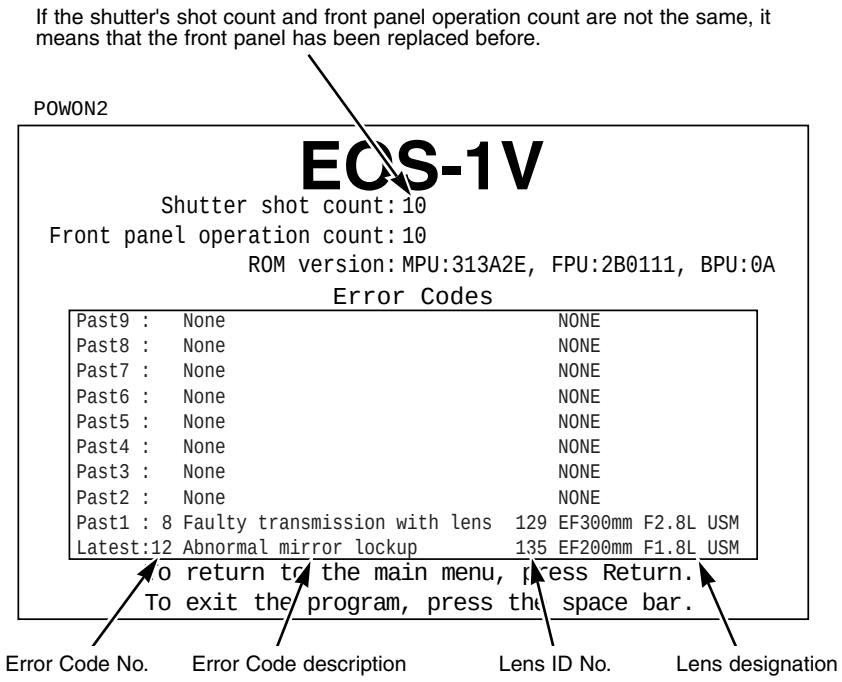
If you do not turn the Main Dial within 1 minute, a communication error will occur.

NOTE 1 Pressing the shutter button halfway (SW1) or completely (SW2) will cause an error to occur.

The adjustment software will check whether communication with the camera has been established. After this is completed, the following will be displayed on the screen as shown on the right: Shutter’s shot count, front panel unit’s operation count, camera’s ROM version, error code, and the lens that was being used when the error occurred.

The ROM software is compatible with the 313A2E or later MPU, 2B0111 or later FPU, and OA or later BPPU. (When the camera back is open, "00" will be displayed for the BPPU version.) It keeps a record of the last ten errors that have occurred. This record of errors can be deleted by selecting the "Delete Error Codes" option.

For details on the error codes, see Chapter 2's "5. Error Code Display."

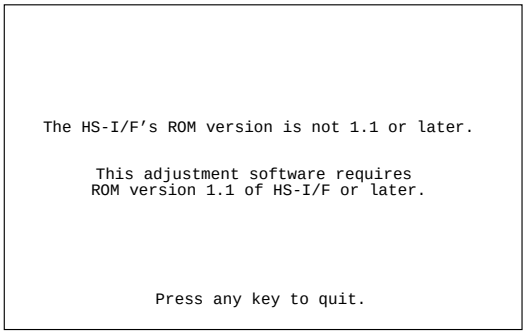

If the shutter's shot count and front panel operation count are not the same, it means that the front panel has been replaced before.
POWON2
EOS-1V
Shutter shot count: 10
Front panel operation count: 10
ROM version: MPU:313A2E, FPU:2B0111, BPU:0A
Error Codes
Past9 : None NONE
Past8 : None NONE
Past7 : None NONE
Past6 : None NONE
Past5 : None NONE
Past4 : None NONE
Past3 : None NONE
Past2 : None NONE
Past1 : 8 Faulty transmission with lens 129 EF300mm F2.8L USM
Latest:12 Abnormal mirror lockup 135 EF200mm F1.8L USM
To return to the main menu, press Return.
To exit the program, press the space bar.
Error Code No.
Error Code description
Lens ID No.
Lens designation

* If "Other Manufacture" is displayed for the lens designation, it indicates that an error occurred with a non-Canon lens.

For the EOS-1V electrical adjustment, Multiple Tool II or HS-I/F with ROM version 1.1 or later is required.

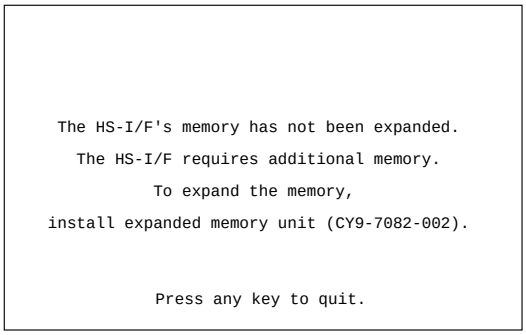
If you are not using Multiple Tool II or HS-I/F with ROM version 1.1 or later, the adjustment software will display the message shown on the right.

ERRHSVER


The HS-I/F's ROM version is not 1.1 or later.
This adjustment software requires
ROM version 1.1 of HS-I/F or later.
Press any key to quit.

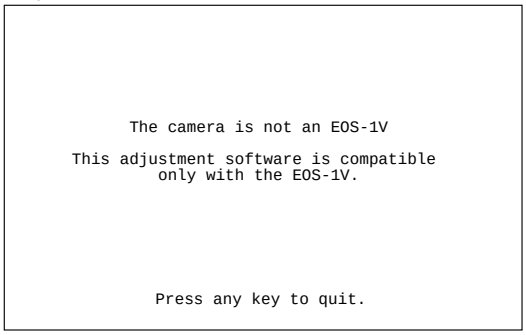
If you use HS-I/F, additional memory will be necessary. If it does not have additional memory, the message shown on the right will appear.

ERRMEM

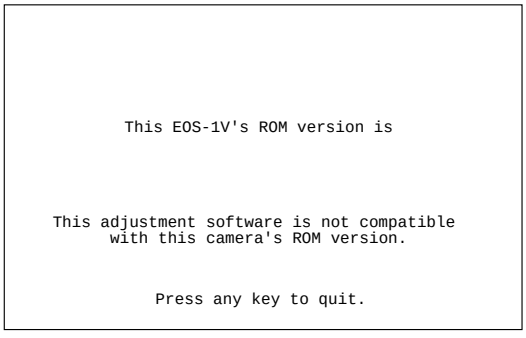

The HS-I/F's memory has not been expanded.
The HS-I/F requires additional memory.
To expand the memory,
install expanded memory unit (CY9-7082-002).
Press any key to quit.

Also, if a camera other than the EOS-1V has been connected or if the camera ROM version is incompatible, the adjustment software will display the message shown on the right.

ERRCAM



ERRCVER


This EOS-1V's ROM version is
This adjustment software is not compatible
with this camera's ROM version.
Press any key to quit.

6) Ending Operation

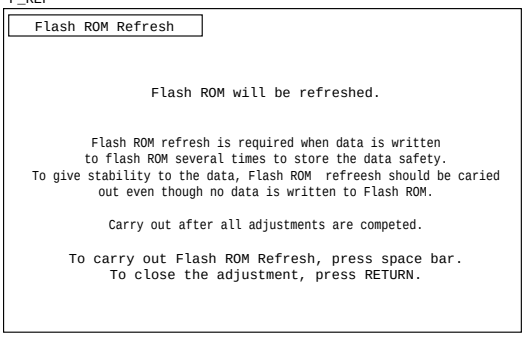
CAUTION

- Refreshing the flash ROM overwrites the data. Therefore, it will not damage the flash ROM. You should refresh the flash ROM in all cameras brought in for repair.

The EOS-1V has a flash ROM. To better ensure that the flash ROM data is saved properly, select F10 END. The screen on the right then appears.

If you have executed AF adjustment and initialization, follow the on-screen instructions to rewrite the flash ROM.

F_REF

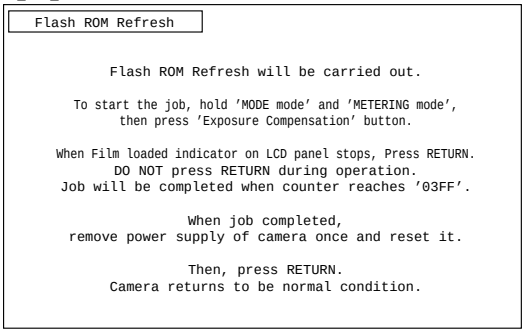

Flash ROM Refresh
Flash ROM will be refreshed.
Flash ROM refresh is required when data is written
to flash ROM several times to store the data safety.
To give stability to the data, Flash ROM refreesh should be caried
out even though no data is written to Flash ROM.
Carry out after all adjustments are competed.
To carry out Flash ROM Refresh, press space bar.
To close the adjustment, press RETURN.

After the flash ROM refresh program is transmitted, the screen on the right appears.

Press the shooting mode button and metering mode button simultaneously, then press the Exposure Compensation button. Keep pressing the Exposure Compensation button for about 1 second.

The program will end after about 1.5 minute. Then remove (reset) the camera's power source and reinstall it again. Press the Return key to cancel the program.

F_REF_S


Flash ROM Refresh
Flash ROM Refresh will be carried out.
To start the job, hold 'MODE mode' and 'METERING mode',
then press 'Exposure Compensation' button.
When Film loaded indicator on LCD panel stops, Press RETURN.
DO NOT press RETURN during operation.
Job will be completed when counter reaches '03FF'.
When job completed,
remove power supply of camera once and reset it.
Then, press RETURN.
Camera returns to be normal condition.

7) Adjustment Software Menu Configuration

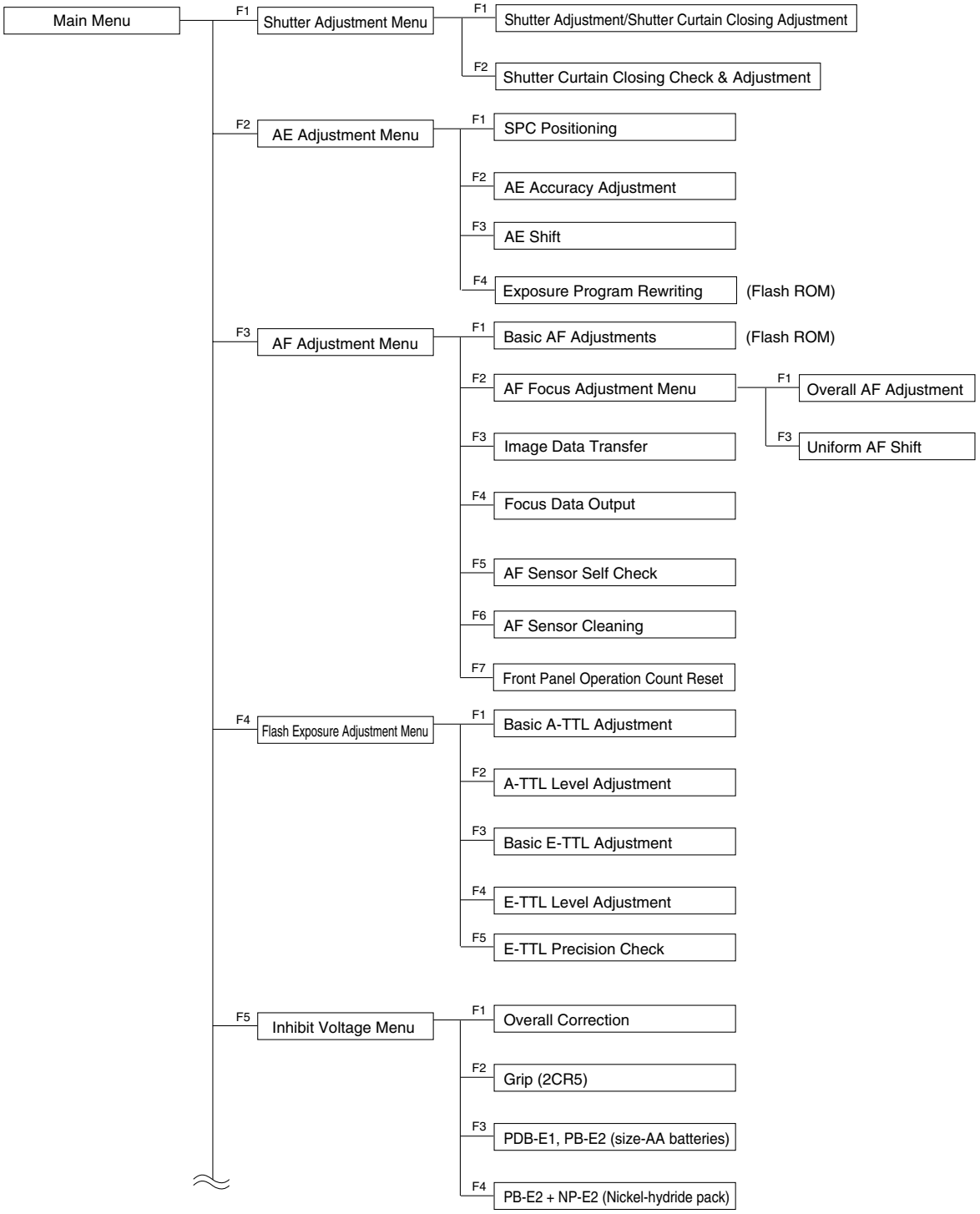

Main Menu
F1 Shutter Adjustment Menu
F1 Shutter Adjustment/Shutter Curtain Closing Adjustment
F2 Shutter Curtain Closing Check & Adjustment
F2 AE Adjustment Menu
F1 SPC Positioning
F2 AE Accuracy Adjustment
F3 AE Shift
F4 Exposure Program Rewriting (Flash ROM)
F3 AF Adjustment Menu
F1 Basic AF Adjustments (Flash ROM)
F2 AF Focus Adjustment Menu
F1 Overall AF Adjustment
F3 Uniform AF Shift
F3 Image Data Transfer
F4 Focus Data Output
F5 AF Sensor Self Check
F6 AF Sensor Cleaning
F7 Front Panel Operation Count Reset
F4 Flash Exposure Adjustment Menu
F1 Basic A-TTL Adjustment
F2 A-TTL Level Adjustment
F3 Basic E-TTL Adjustment
F4 E-TTL Level Adjustment
F5 E-TTL Precision Check
F5 Inhibit Voltage Menu
F1 Overall Correction
F2 Grip (2CR5)
F3 PDB-E1, PB-E2 (size-AA batteries)
F4 PB-E2 + NP-E2 (Nickel-hydride pack)

Fig. 4-2 Adjustment software menu configuration 1.

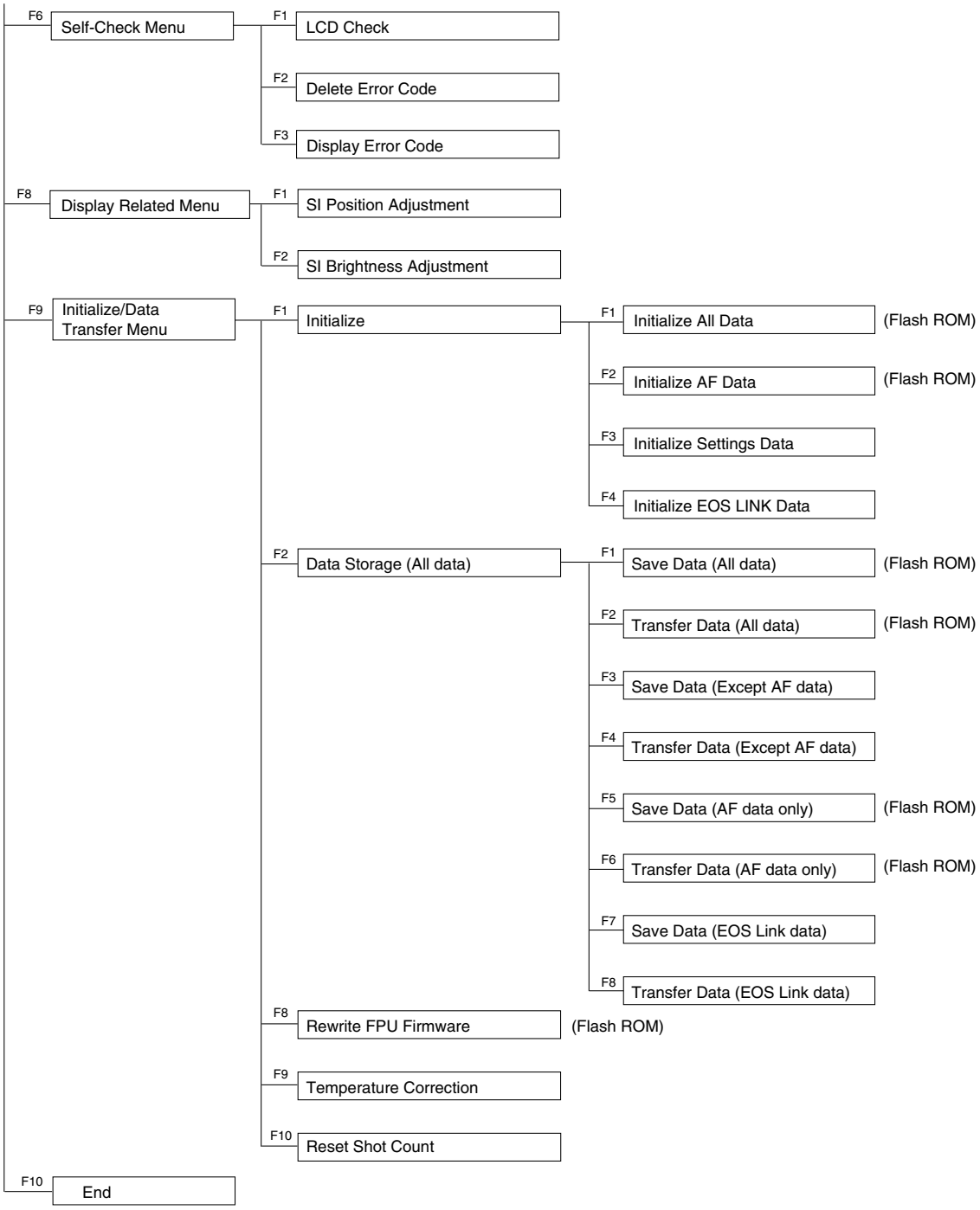

F6 Self-Check Menu
F1 LCD Check
F2 Delete Error Code
F3 Display Error Code
F8 Display Related Menu
F1 SI Position Adjustment
F2 SI Brightness Adjustment
F9 Initialize/Data Transfer Menu
F1 Initialize
F1 Initialize All Data (Flash ROM)
F2 Initialize AF Data (Flash ROM)
F3 Initialize Settings Data
F4 Initialize EOS LINK Data
F2 Data Storage (All data)
F1 Save Data (All data) (Flash ROM)
F2 Transfer Data (All data) (Flash ROM)
F3 Save Data (Except AF data)
F4 Transfer Data (Except AF data)
F5 Save Data (AF data only) (Flash ROM)
F6 Transfer Data (AF data only) (Flash ROM)
F7 Save Data (EOS Link data)
F8 Transfer Data (EOS Link data)
F8 Rewrite FPU Firmware (Flash ROM)
F9 Temperature Correction
F10 Reset Shot Count
F10 End

Fig. 4-3 Adjustment software menu configuration 2.

1.5 SHUTTER ADJUSTMENT

PURPOSE

To adjust the shutter speeds. If the fastest shutter speed meets the standard, it means that all the shutter speeds have been properly adjusted. Also, as the shutter speeds are adjusted, the shutter curtain closing adjustment is executed automatically.

CAUTION

Shutter curtain travel time is not adjustable. If the curtain travel times fail to meet the standard, the shutter unit must be replaced.

Curtain Travel Time Standards

First curtain: 2.2 +/-0.1 ms

Second curtain: 2.2 +/-0.1 ms

Definition of Shutter Curtain Closing Adjustment

If there is a problem with the shutter and the shutter curtains run without opening, a warning is issued to the user. The camera measures the time from the X-sync ON timing to the CN2 (second curtain switch) ON timing. If the time fails to meet the standard, a BC error (error No. 21) is displayed.

STANDARDS

At a shutter speed of 1/8000 sec.:

Center time:	0.122 ms
Standard range:	0.086 - 0.173 ms
Shutter curtain speed:	2.2 ms

TOOLS

EF-8000

EF 50mm f/1.8 lens (commercially available)

PREPARATIONS

1) Attach the EF 50mm f/1.8 lens to the camera and set up the EF-8000 as shown in the figure. Set the EF-8000 to the shutter speed measurement mode.
2) Start up the adjustment software and connect the camera to Multiple Tool II (or HS-I/F). On the Main Menu, select [F1] shutter adjustment. Set the camera to manual mode, shutter speed to 1/8000 sec., and aperture to f/1.8.

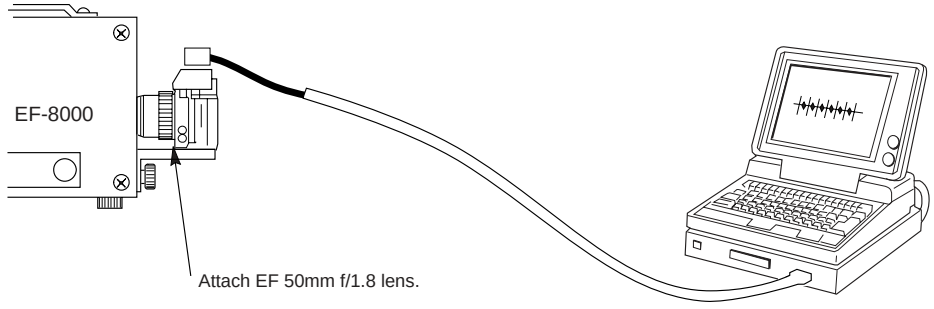


Fig. 4-4 Shutter adjustment.

ADJUSTMENT PROCEDURE

1) Measure the shutter speed. Move the cursor to the measured value, then press Return.

   After transmitting to the camera, the shutter's correction value will be written.

- Pressing ESC will write in the standard value (default). Do this if something goes wrong with the measurement.

2) After the transmission is completed, measure the shutter speed to check it. If it fails to meet the standard, press the space bar and do the adjustment again.

- The "measurement range" is the current measurement's adjustment reference. If the measured value is way off from this measurement range, the settings or shutter unit might be faulty.

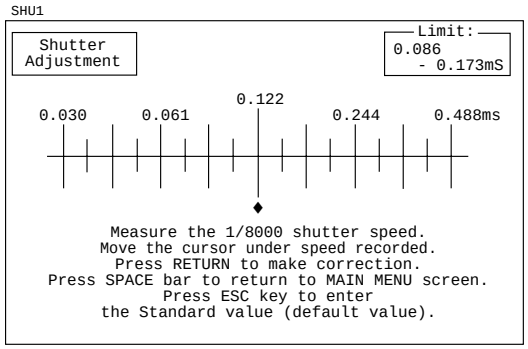
3) Next is the shutter curtain closing adjustment. Follow the on-screen instructions and release the shutter 10 times or more. After releasing the shutter, press the Return key.

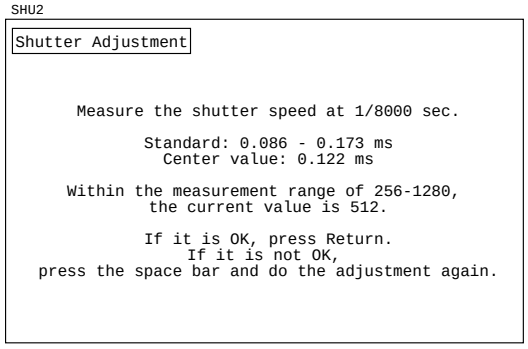
4) The optimum shutter curtain closing time is set automatically.

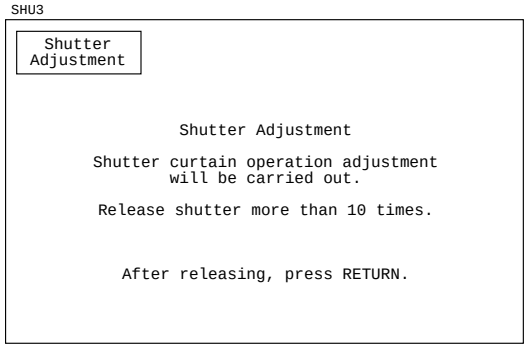
   If the difference between the MAX and MIN values is over 150µs, the shutter is probably faulty.

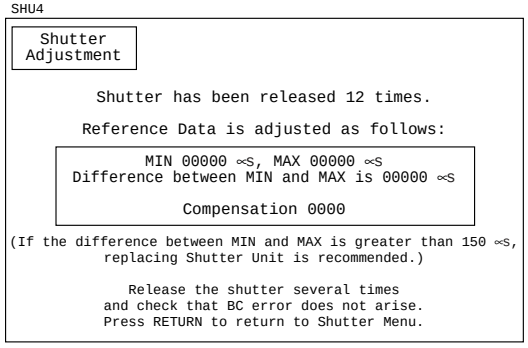
   NOTE:

   MAX and MIN values are the longest and shortest X-sync On to CN2 On times measured during the adjustment. The correction value is the one written to the camera.




SHU2
Shutter Adjustment
Measure the shutter speed at 1/8000 sec.
Standard: 0.086 - 0.173 ms
Center value: 0.122 ms
Within the measurement range of 256-1280,
the current value is 512.
If it is OK, press Return.
If it is not OK,
press the space bar and do the adjustment again.




SHU4
Shutter Adjustment
Shutter has been released 12 times.
Reference Data is adjusted as follows:
MIN 00000 ∝S, MAX 00000 ∝S
Difference between MIN and MAX is 00000 ∝S
Compensation 0000
(If the difference between MIN and MAX is greater than 150 ∝S,
replacing Shutter Unit is recommended.)
Release the shutter several times
and check that BC error does not arise.
Press RETURN to return to Shutter Menu.

1.6 SHUTTER CURTAIN CLOSING ADJUSTMENT

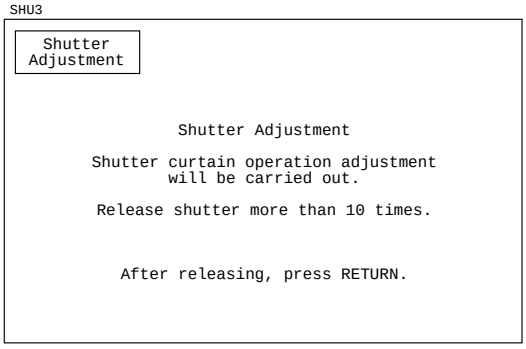
CAUTION

- Before executing the shutter curtain closing adjustment, be sure to execute the shutter adjustment.
- If BC error 21 occurs often, the shutter is probably faulty. Replacing the shutter is recommended. (When the MAX and MIN values differ greatly.)

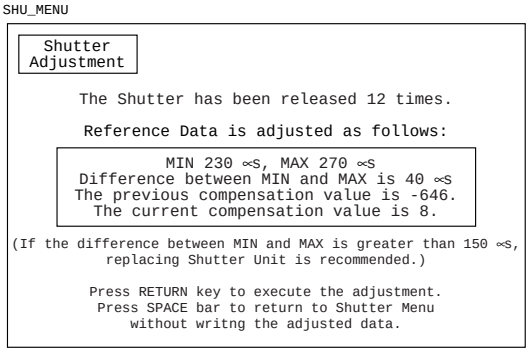
PURPOSE

Checking and executing the shutter curtain closing adjustment if BC error 21 occurs often.

1) Follow the on-screen instructions as shown on the right, and release the shutter 10 times or more. Then press the Return key.



2) The shutter curtain closing value when it was adjusted the last time and the currently measured shutter curtain closing value are displayed. Either press the Return key to write the currently measured value to the camera or press the space bar to not write it to the camera.


SHU_MENU
Shutter Adjustment
The Shutter has been released 12 times.
Reference Data is adjusted as follows:
MIN 230 ∝s, MAX 270 ∝s
Difference between MIN and MAX is 40 ∝s
The previous compensation value is -646.
The current compensation value is 8.
(If the difference between MIN and MAX is greater than 150 ∝s, replacing Shutter Unit is recommended.)
Press RETURN key to execute the adjustment.
Press SPACE bar to return to Shutter Menu without writng the adjusted data.

NOTE:

If the previous correction value and the current correction value differ greatly, BC error 21 is less prone to occur. This is because the shutter's characteristics are different from the time of the last adjustment.

1.7 X-SYNC TIME LAG CHECK

PURPOSE

To check that the shutter curtains are fully open when the flash fires. This cannot be adjusted. Perform this check if the user complains that part of the flash picture looks dark. If the shutter curtains do not meet the standard, replace the shutter.

STANDARDS

Shutter speed: 1/250 sec.

Value A: 0.18 ms or longer (Time from the start of the 1st curtain until X-sync ON)

Value B: 1.50 ms or longer (Time from X-sync ON to the closing of 2nd curtain)

TOOLS

EF-8000 or EF-5000

X-sync time lag checking shoe

CHECK PROCEDURE

1) Set the shutter speed to 1/250 sec. in the shutter speed-priority AE mode or manual mode.
2) Make the connections as shown in the figure below, and set the EF-8000 or EF-5000 to the DELAY mode. Then execute the measurement.

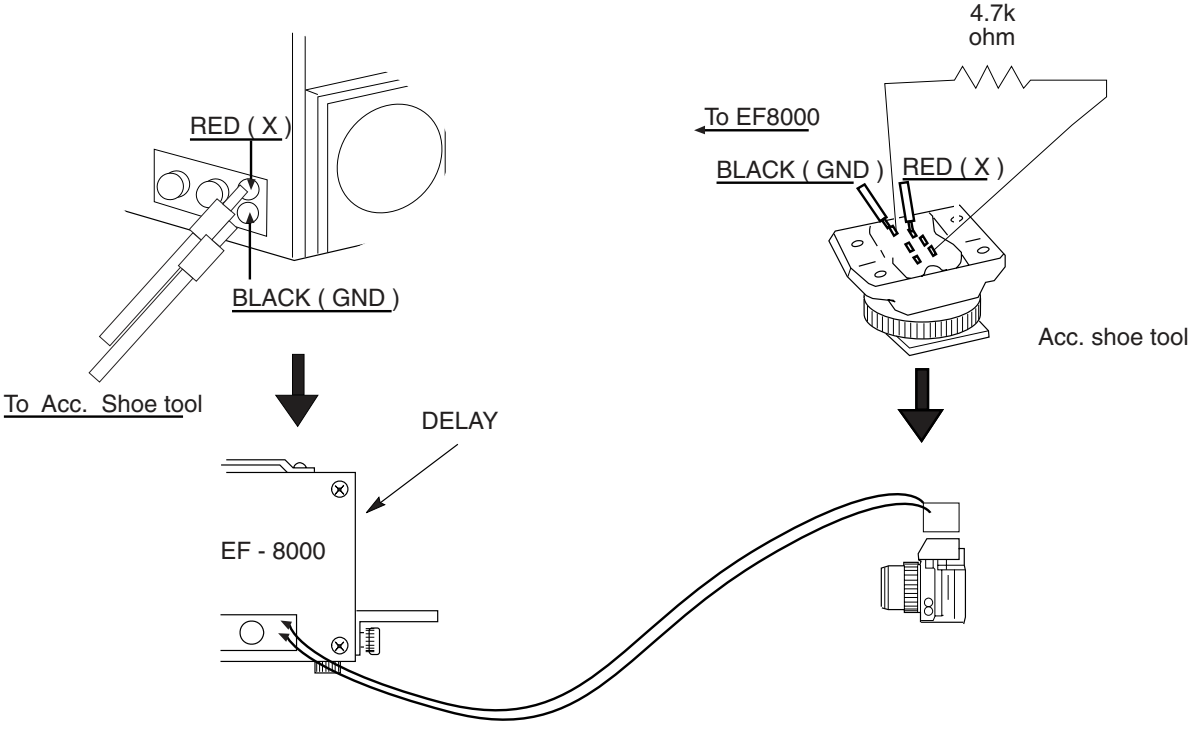


Fig. 4-5 Checking the X-sync time lag.

1.8 SPC POSITIONING

PURPOSE

To align the SPC's center with the camera's optical axis. This can be done with or without Multiple Tool II (or HS-I/F). If you do not use Multiple Tool II (or HS-I/F), a bright penlight and expert skill will be required.

• Procedure Without Using Multiple Tool II or HS-I/F

CAUTION This procedure requires expert skill. Until you become an expert at it, follow the procedure which uses the Multiple Tool II or HS-I/F to perform a final check.

TOOLS

Bright penlight
EF 50mm f/1.8 lens
Instant glue

PREPARATIONS

1) Attach the EF 50mm f/1.8 lens to the camera.
2) While following the procedure for AF sensor positioning, use your hand to cover the viewfinder and illuminate the SPC's side (clear portion) with the penlight.
3) Look through the lens and move the penlight so you can see the SPC's S0 and other border lines. When doing this, cover the viewfinder so that the center focusing point in the viewfinder is faintly visible. Also, keep the penlight at a fixed position. This will make it easier to move the SPC.

ADJUSTMENT PROCEDURE

1) Move the SPC so that the SPC's S0 aligns with the viewfinder's center focusing point.
2) Make fine adjustments so that it aligns with the center of the viewfinder's left and right focusing points.

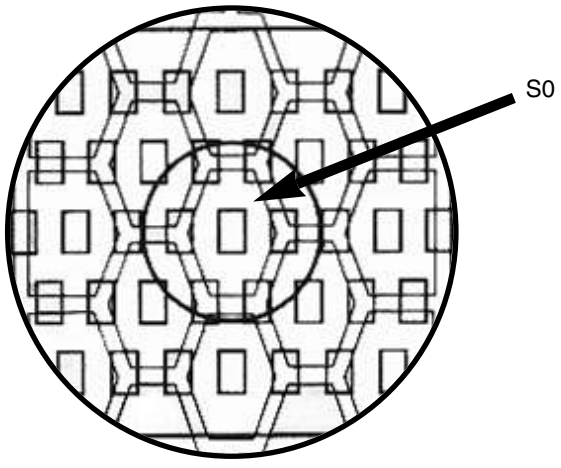


Fig. 4-6 SPC positioning.

• Procedure Using Multiple Tool II or HS-I/F

CAUTION

Before proceeding with this adjustment, do the [F2] AE precision adjustment first as a temporary adjustment. Also, after completing this adjustment, do the [F2] AE precision adjustment as the final adjustment.

TOOLS

EF-8000 or EF-5000
EF 50mm f/1.8 lens
SPC positioning mask (Same one for EOS Rebel X/Rebel XS/500/Kiss)
Instant glue

PREPARATIONS

1) Attach the EF 50mm f/1.8 lens to the camera. Mount the camera on a tripod and point it at the light source. Also, cover the SPC with a black cloth to block any stray light.
2) Start up the adjustment software and connect the camera to the Multiple Tool II or HS-I/F. On the Main Menu, select [F2] AE Adjustment Menu.
3) Affix the SPC positioning mask on the EF-8000 or EF-5000 light source. Set the brightness to LV15.
4) Place the camera 45 cm away from the positioning mask. Align the viewfinder's center focusing point with the center of the mask. Also, focus manually.

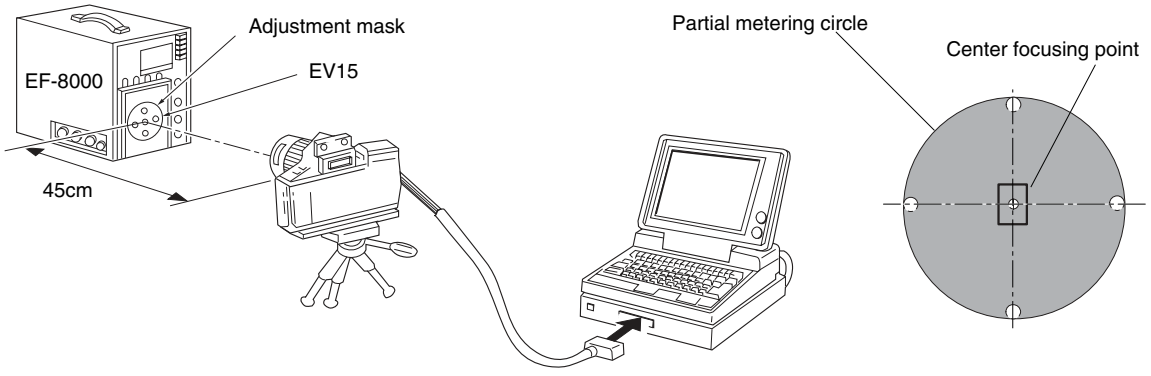
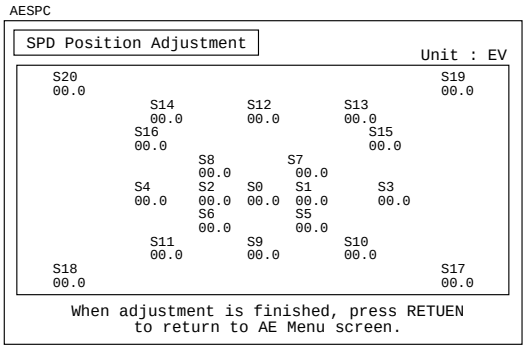


Fig. 4-7 SPC positioning.

ADJUSTMENT PROCEDURE

1) On the AE Adjustment Menu, select [F1] SPC positioning. The approximate EV of the SPC's metering sensors will be displayed.
2) As shown in the figure below, block the light at the four holes at the bottom and take EV readings of the S0 sensor.
3) As shown in the figure below, block the light at the left, top, and bottom individually and take EV readings from the S0 sensor each time.



4) Move the SPC to position it so that the readings displayed for the top, bottom, left, and right are within 2 stops.
5) After the adjustment, use instant glue to set the SPC holder in place. After attaching the cover, do steps 2) and 3) again to check it.

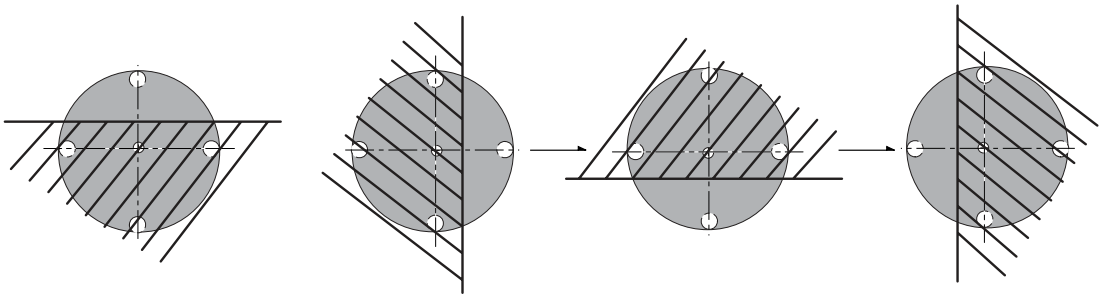


Fig. 4-8 SPC positioning.

1.9 AE ACCURACY ADJUSTMENT

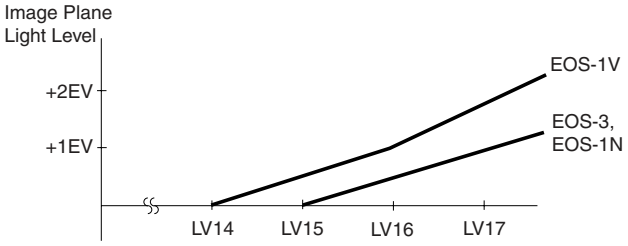
PURPOSE

To adjust the metering sensor's output level.

STANDARDS

Light Source	Image Plane Light Level (During Evaluative Metering)	Image Plane Light Level (During Partial/Spot Metering)	SPC Positioning Output Check
EV9	0.0 +/-0.5 EV	0.0 +/-0.5 EV	0.0 +/-0.25
EV12	0.0 +/-0.5 EV	0.0 +/-0.5 EV	0.0 +/-0.25
EV15	0.5 +/-0.5 EV	0.0 +/-0.5 EV	0.0 +/-0.25

NOTE:
As shown in the graph on the right, the image plane light level for evaluative metering has been modified to obtain a more natural-looking picture. This connection is not applied during test using a unform light source.



TOOLS

EF-8000 or EF-5000
EF 50mm f/1.8 lens

PREPARATIONS

1) Start up the adjustment software and connect the camera to the HS-I/F. On the Main Menu, select [F2] AE Adjustment Menu.
2) Attach the EF 50mm f/1.8 lens to the camera and point the lens at the EF-8000 or EF-5000 light source. Cover the eyepiece so that the external light does not affect the results.

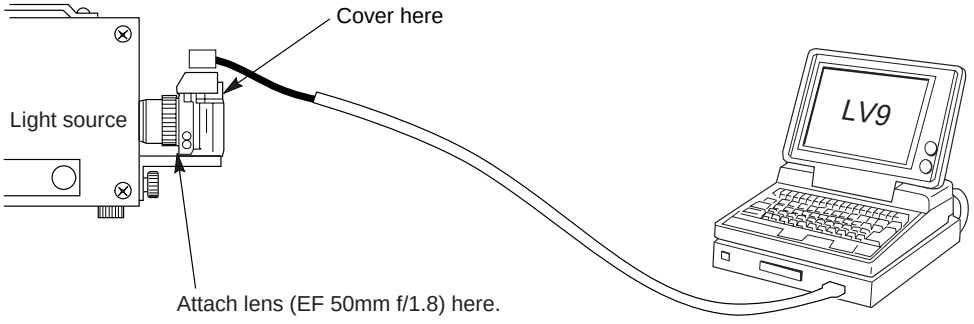


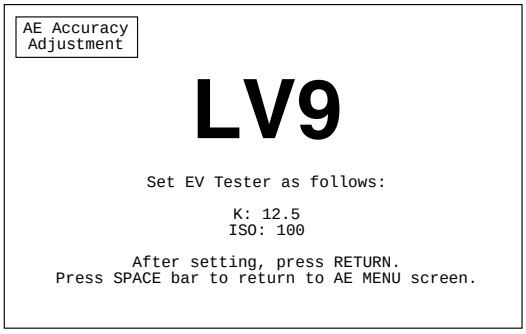
Fig. 4-9 AE precision adjustment.

ADJUSTMENT PROCEDURE

1) On the AE Adjustment Menu, select [F2] AE Accuracy Adjustment.
2) Set the light source to LV9, then press Return.

   K: 12.5
   ISO: 100

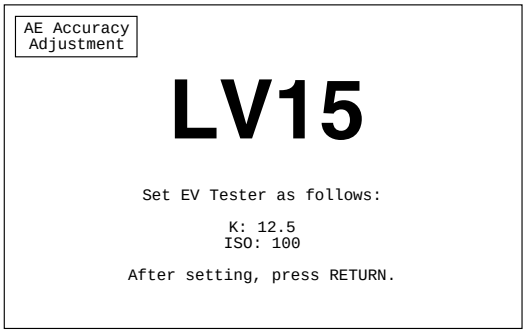
AEM1



3) After the transmission, the screen on the right will appear. Set it to LV15 and press Return.

   K: 12.5
   ISO: 100

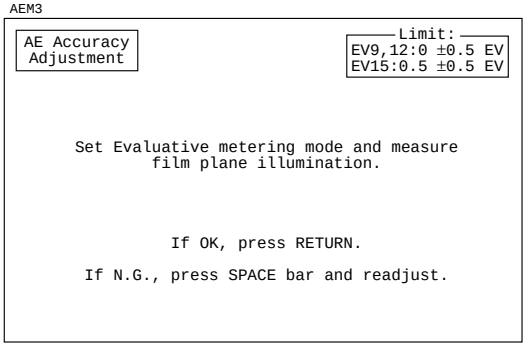
AEM2



4) After the transmission is completed, the shooting mode will be set to Program. Measure the film plane illumination at EV9, EV12, and EV15 to check the adjustment. If it does not meet the standards, press the space bar and do the adjustment again.

   You can also check it during SPC positioning.

AEM3


AE Accuracy Adjustment
Limit:
EV9,12:0 ±0.5 EV
EV15:0.5 ±0.5 EV
Set Evaluative metering mode and measure film plane illumination.
If OK, press RETURN.
If N.G., press SPACE bar and readjust.

NOTE 3

Before you check the film plane illumination, you must first execute the shutter adjustment.
Since the SPC positioning is based on the EF 50mm f/1.8 lens, the value will differ with a different lens.

1.10 AE SHIFT

PURPOSE

The exposure level can be set to overexpose or underexpose according to the user's preference. This adjustment shifts the exposure level by the compensation amount as set with the AE accuracy adjustment's level adjustment.

TOOLS

EF-8000 or EF-5000

EF 50mm f/1.8 lens

PREPARATIONS

1) Start up the adjustment software and connect the camera to the Multiple Tool II or HS-I/F. On the Main Menu, select [F2] AE Adjustment Menu.
2) Attach the EF 50mm f/1.8 lens to the camera and point the lens at the EF-8000's light source. Cover the eyepiece so that the external light does not affect the results.

   (This is the same procedure as for AE accuracy adjustment.)

   K: 12.5

   ISO: 100

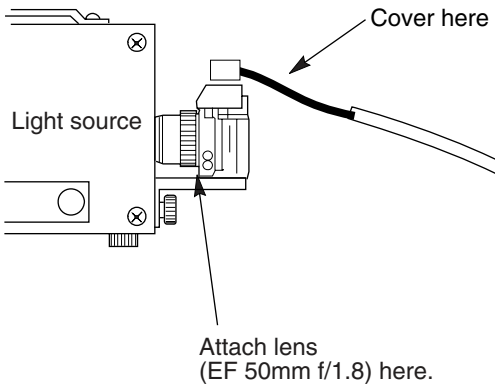
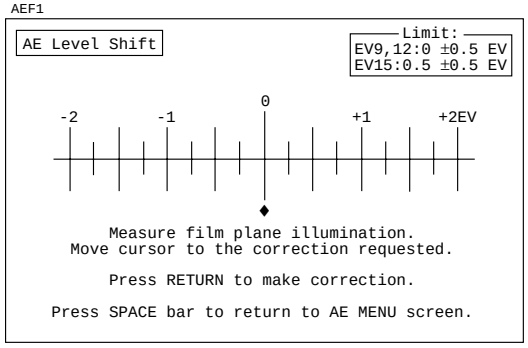


Fig. 4-10 AE shift.

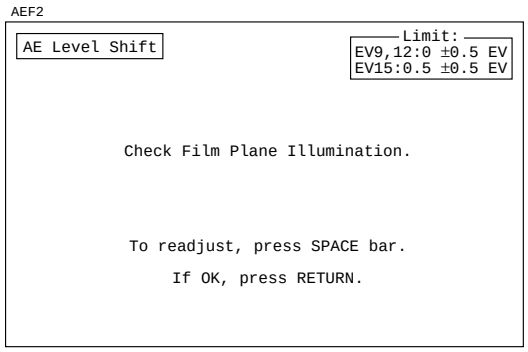
ADJUSTMENT PROCEDURE

1) On the AE Adjustment Menu, select [F3] AE Shift.
2) Use the cursor keys to select the compensation amount.

   The compensation amount can be set in approx. 0.25-stop increments. To set 1-stop overexposure, set +1.



3) After the transmission is completed, the shooting mode will be set to Program. Measure film plane illumination at EV9, EV12, and EV15 to check the adjustment.



1.11 REWRITING THE EXPOSURE PROGRAM

CAUTION

- Before rewriting the exposure program, execute the basic AE adjustments. For normal servicing, select "Normal (0)." Or set the compensation amount (+ or -) according to the user's preference. (Initialization will set it to "Normal [0].")
- The data is written to the FPU IC's flash ROM. Therefore, do not repeat rewrite the exposure program.

PURPOSE

To fine-tune the correction data the EOS-1V has (like the EOS-3) for each maximum aperture.

TOOLS

EF-8000 or EF-5000

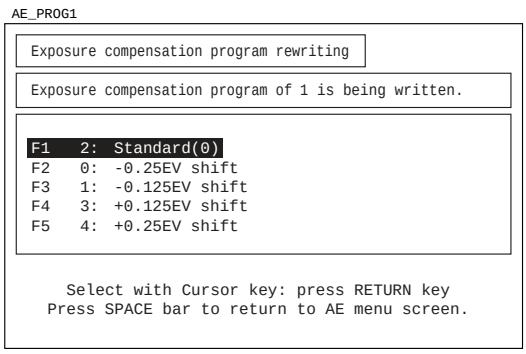
EF 50mm f/1.8 lens or user's lens or EF 28-135mm f/3.5-5.6 IS lens

PREPARATIONS

1) On the AE Adjustment Menu, select [F4] Exposure Program Rewriting.
2) Attach the EF 50mm f/1.8 lens to the camera and set the camera to aperture-priority AE with an f/8 aperture. Set the lens to infinity with manual focus, and measure the exposure level for each brightness.
3) Next, attach the user's lens or the EF 28-135mm f/3.5-5.6 IS lens to the camera and set the camera to aperture-priority AE and f/8.

ADJUSTMENT PROCEDURE

1) Select the difference between the EF 50mm f/1.8 lens and the user's lens or EF 28-135mm f/3.5-5.6 IS lens.


AE_PROG1
Exposure compensation program rewriting
Exposure compensation program of 1 is being written.
F1 2: Standard(0)
F2 0: -0.25EV shift
F3 1: -0.125EV shift
F4 3: +0.125EV shift
F5 4: +0.25EV shift
Select with Cursor key: press RETURN key
Press SPACE bar to return to AE menu screen.

Example:
EF 50mm f/1.8 lens exposure:
–0.15 EV
User's lens: +0.10 EV

–0.15 EV – (+0.10 EV) = –0.25 EV

The example here corrects the exposure level to match the EF 50mm f/1.8 lens' exposure level.

NOTE:
To change the exposure level to overexpose or underexpose for all lenses, use AE shift.

2) The rewriting takes about 1 minute. To confirm the change, follow the PREPARATIONS procedure.

1.12 BASIC AF ADJUSTMENTS

CAUTION

It will take about 15 minutes to complete all of the basic AF adjustments. If you want to stop before completing all the adjustments, press ESC to quit. The basic AF adjustments will be written to the FPU IC's flash ROM. Therefore, do not repeat the basic AF adjustments needlessly.

PURPOSE

To adjust the AF sensor's output data.

AGC (Auto Gain Control): To be set so that the optimum AF waveform is always obtained.

Dark: The output waveform is to be recorded while there is no light, and it is used for the correction.

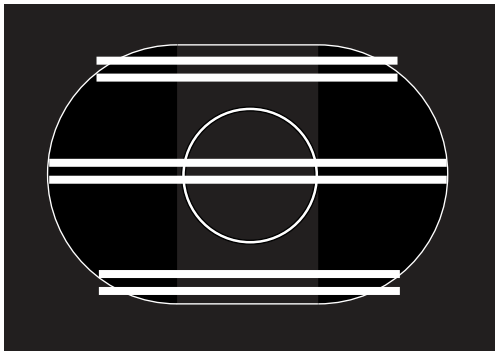
Shading: The irregularity of the AF sensor's output waveform is to be recorded and used for the correction.

TOOLS

EF 50mm f/1.8 tool lens
Video light
Tripod
Dark bag
AF Standard Chart Set (CY9-1124-000) (3 charts)

PREPARATIONS

1) As shown in the figure below, place the camera (with the EF 50mm f/1.8 lens attached) 2.5 m away from the AF Standard Chart (vertical 1). Use the video light to illuminate the chart so that the chart's surface is about EV 12 (in the Program mode, Tv=1/125 sec. and Av=f/5.6).
2) Start up the adjustment software and select [F3] AF Adjustment Menu on the Main Menu.



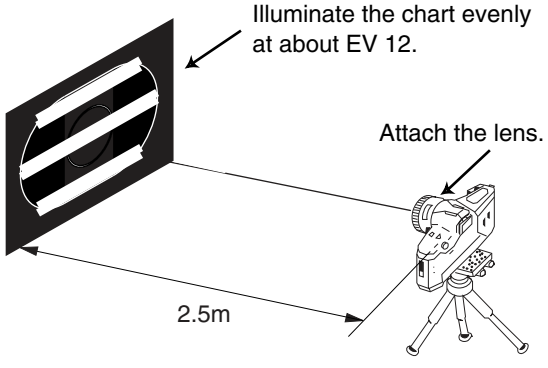
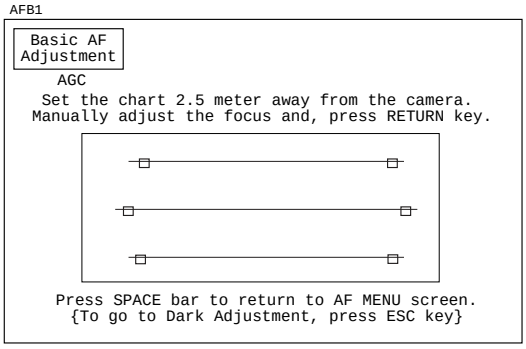


Fig. 4-11 AGC adjustment.

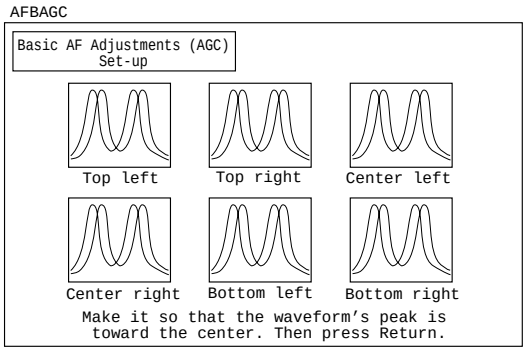
ADJUSTMENT PROCEDURE

1) When Basic AF Adjustments is selected, the screen as shown on the right will appear. Set up the camera, then press Return. The AGC adjustment will then begin.
   * Press the ESC key to go to the Dark Adjustment screen.

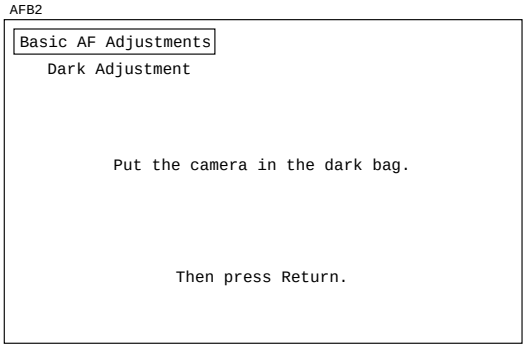

AFB1
Basic AF Adjustment
AGC
Set the chart 2.5 meter away from the camera.
Manually adjust the focus and, press RETURN key.
Press SPACE bar to return to AF MENU screen.
{To go to Dark Adjustment, press ESC key}

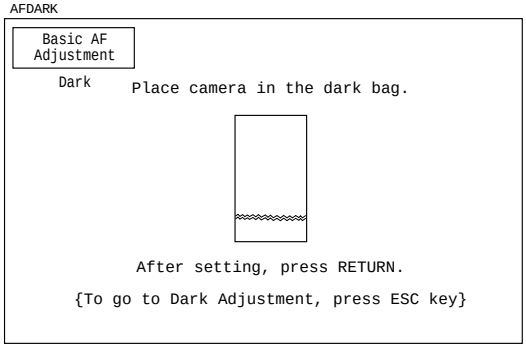
2) When you press Return, the waveforms will be output as shown on the right. Set up the camera so that the peak of each waveform is at the center. Then press Return. (The adjustment will begin.)

3) Next, use the Basic AF Chart (horizontal 2) and execute the same adjustment procedure.



4) After the AGC adjustment is completed, the screen shown on the right will appear. Put the camera in the dark bag and press Return. Start the dark adjustment.
   * Press the ESC key to go to the Shading Adjustment screen.

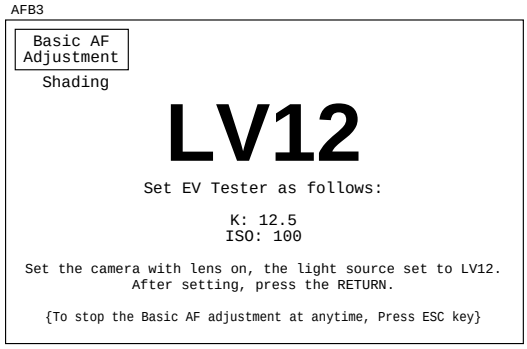




5) When the dark adjustment is completed, the screen shown on the right will appear. Prepare for the shading adjustment. Attach the lens and place the camera at the camera tester's light source. Then press Return. Start the shading adjustment.

   After the shading adjustment is completed, the screen will return to the AF Adjustment Menu.

   * To exit the adjustment, press the ESC key.


AFB3
Basic AF Adjustment
Shading
LV12
Set EV Tester as follows:
K: 12.5
ISO: 100
Set the camera with lens on, the light source set to LV12.
After setting, press the RETURN.
{To stop the Basic AF adjustment at anytime, Press ESC key}

NOTE 4 Except for the AGC adjustment, detach the lens before executing the adjustments. Also, close the eyepiece shutter to prevent any bright light from leaking out the eyepiece.

1.13 AF FOCUS ADJUSTMENT

CAUTION

- Before doing this adjustment, first complete the temperature correction, basic AF adjustments, and flange focal distance adjustment.
- Be careful not to have dust particles adhering to the main mirror, secondary mirror, and AF sensor.
- There are two AF focus adjustments: Overall AF adjustment and uniform AF shift. Overall AF adjustment adjusts all of the Area AF's sensors. Uniform AF shift is the same as with the conventional AF shift which corrects all the sensors as desired.

PURPOSE

To record the AF's standard distance.

TOOLS

EF 50mm f/1.8 tool lens
Video light
Tripod
AF Standard Chart (CY9-1124-000)
Best Focus Tester (CY9-7110-000, CY9-7110-001)

PREPARATIONS

1) As shown in the figure below, place the camera 2.5 m +/-1 cm away from the AF Standard Chart (vertical). Place the chart horizontally and use the video light to illuminate it evenly at EV 12 (in the Program mode, Tv=1/125 sec. and Av=f/5.6).
2) Start up the adjustment software. On the Main Menu, select the AF Adjustment Menu.

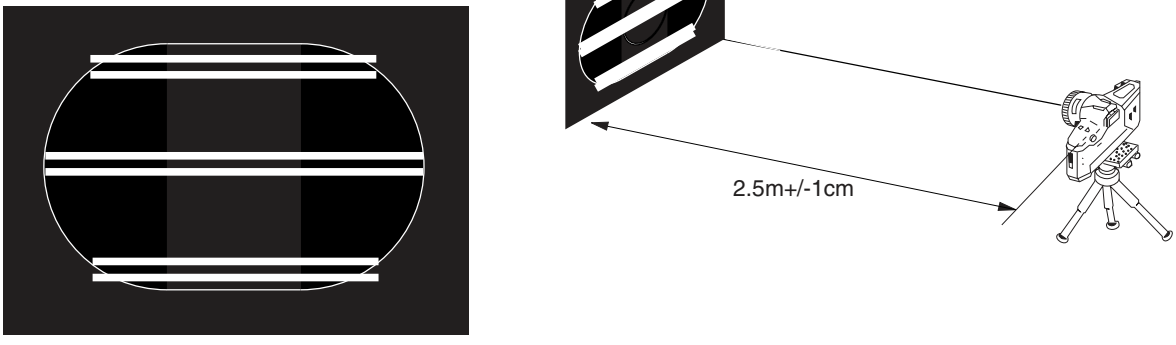
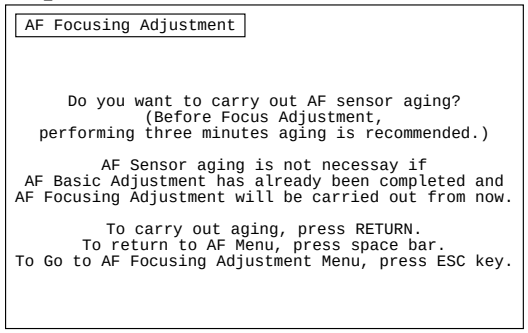


Fig. 4-12 AF focusing adjustment set-up.

ADJUSTMENT PROCEDURE

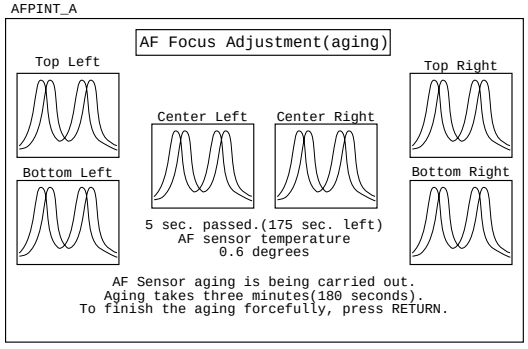
1) Select “F1 Overall AF adjustment” from AF Focusing Adjustment, then the screen shown in the right appears. To carry out Aging, press RETURN. If ESC key is pressed, Aging is cancelled and AF Focusing adjustment can be made.

PINT_AG


AF Focusing Adjustment
Do you want to carry out AF sensor aging?
(Before Focus Adjustment,
performing three minutes aging is recommended.)
AF Sensor aging is not necessay if
AF Basic Adjustment has already been completed and
AF Focusing Adjustment will be carried out from now.
To carry out aging, press RETURN.
To return to AF Menu, press space bar.
To Go to AF Focusing Adjustment Menu, press ESC key.

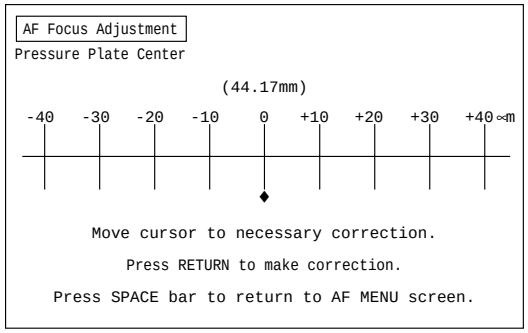
2) If RETURN is pressed, the screen shown in the right appears. Wait for completion of Aging (about three minutes).
The indicated temperature changes about three degrees in three minutes. If the sensor has already been warm enough, the temperature does not change. (Aging was unnecessary.)

AFPINT_A



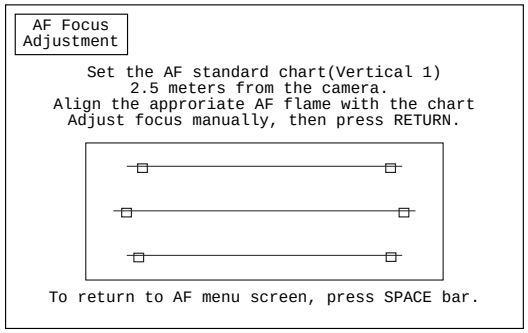
3) On the AF Focus Adjustment Menu, select [F1] Overall AF Adjustment. The screen shown on the right will appear. Use the cursor to move the center value of the flange focal distance, then press Return.

AFPINT1


AF Focus Adjustment
Pressure Plate Center
(44.17mm)
-40 -30 -20 -10 0 +10 +20 +30 +40∞m
Move cursor to necessary correction.
Press RETURN to make correction.
Press SPACE bar to return to AF MENU screen.

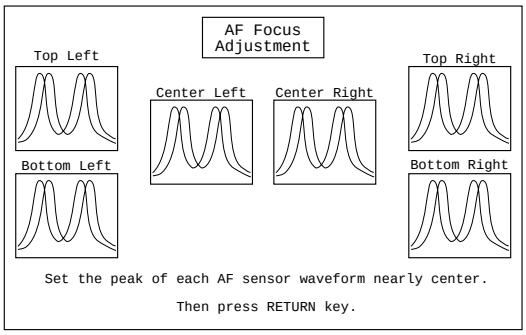
4) When you press Return, the screen shown on the right will appear. Place the camera 2.5 m +/-10 mm away from the standard chart. Set the lens to infinity, then set it manually to the 2.5 m index on the focusing distance scale. Align the viewfinder’s focusing point with the chart’s bars. Then press Return. Start with the f/5.6 (vertical) sensor.

AFPINT


AF Focus Adjustment
Set the AF standard chart(Vertical 1)
2.5 meters from the camera.
Align the approriate AF flame with the chart
Adjust focus manually, then press RETURN.
To return to AF menu screen, press SPACE bar.

5) Check that the AF sensor sees the chart clearly. Set it so that the peak of each waveform moves toward the center. When everything is ready, press Return. (The adjustment will start.)

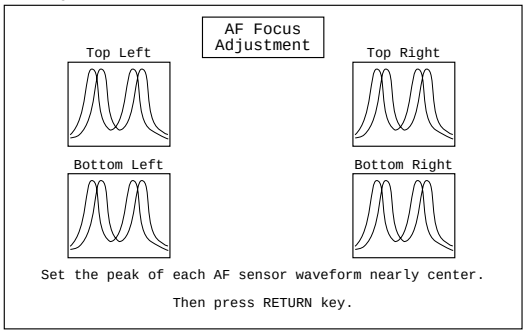
AFPINT2



6) Next, at f/5.6 (vertical), the top, bottom, and center are to be adjusted. Replace the chart with the AF Standard Chart (vertical 2) and press Return.

7) Check that each AF sensor sees the chart clearly. Set it so that the peak of each waveform moves toward the center. When everything is ready, press Return. (The adjustment will start.)

AFPINT3



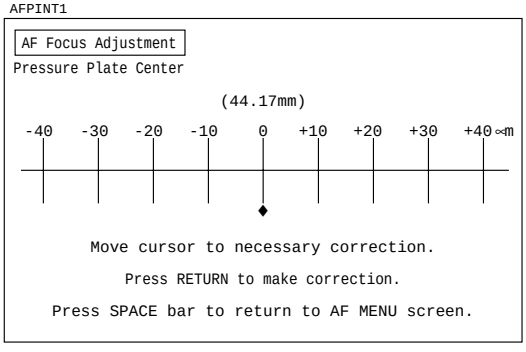
- Later, do the adjustment for the AF Standard Chart (horizontal) at the center top and bottom. After the adjustment is completed, the screen will return to the AF Adjustment Menu.

NOTE 4

If the tool lens has a focus variation other than 0.00, add the variation to the flange focal distance correction.

Example:
If the variation is +0.03 and the flange focal distance correction is 0, correct the indication to -0.03 (-30 microns).

AFPINT1


AF Focus Adjustment
Pressure Plate Center
(44.17mm)
-40 -30 -20 -10 0 +10 +20 +30 +40∞m
Move cursor to necessary correction.
Press RETURN to make correction.
Press SPACE bar to return to AF MENU screen.

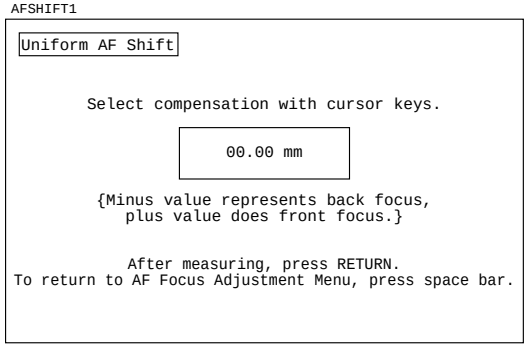
1.14 UNIFORM AF SHIFT

PREPARATION

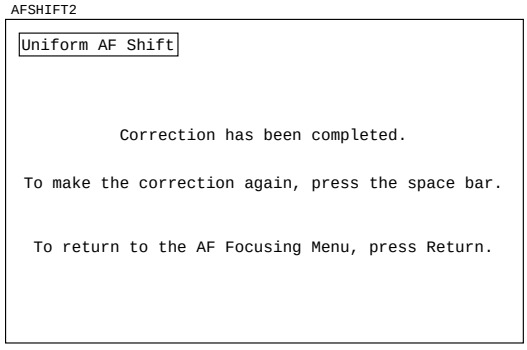
1) First do the AF Focus Data Check to find out how much adjustment is necessary.

ADJUSTMENT PROCEDURE

1) On the AF Focus Adjustment Menu, select [F3] Uniform AF Shift.
2) Use cursor keys to select the correction amount. If the AF Focus Data Check indicates a negative (-) amount, select a positive (+) amount. To set a negative amount, select a negative amount. The correction amount can be set in 0.005 mm increments.


AFSHIFT1
Uniform AF Shift
Select compensation with cursor keys.
00.00 mm
{Minus value represents back focus,
plus value does front focus.}
After measuring, press RETURN.
To return to AF Focus Adjustment Menu, press space bar.

3) To set the correction again, press the space bar. To return to the AF Focus Menu, press Return.


AFSHIFT2
Uniform AF Shift
Correction has been completed.
To make the correction again, press the space bar.
To return to the AF Focusing Menu, press Return.

1.15 IMAGE DATA OUTPUT

PURPOSE

To check the AF sensor's output waveform. The AF sensor's light path can be easily checked for dust, etc., by executing the AF sensor's self check.

TOOLS

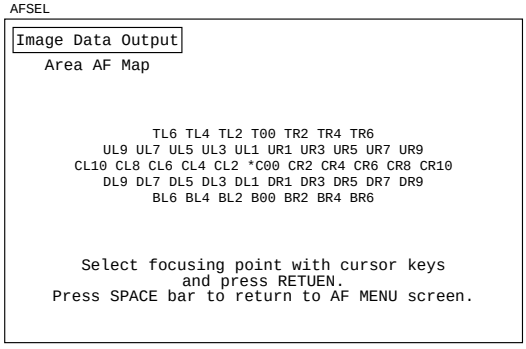
EF-8000 or EF-5000

CHECK PROCEDURE

1) On the AF Menu, select [F3] Image Data Output.

2) The screen on the right will appear. Select the sensor to be checked.

3) If the output waveform is grossly distorted, the AF unit is probably faulty. Replace the front panel unit.


AFSEL
Image Data Output
Area AF Map
TL6 TL4 TL2 T00 TR2 TR4 TR6
UL9 UL7 UL5 UL3 UL1 UR1 UR3 UR5 UR7 UR9
CL10 CL8 CL6 CL4 CL2 *C00 CR2 CR4 CR6 CR8 CR10
DL9 DL7 DL5 DL3 DL1 DR1 DR3 DR5 DR7 DR9
BL6 BL4 BL2 B00 BR2 BR4 BR6
Select focusing point with cursor keys
and press RETUEN.
Press SPACE bar to return to AF MENU screen.

By looking at an even light, you can determine whether the sensor is normal or not.

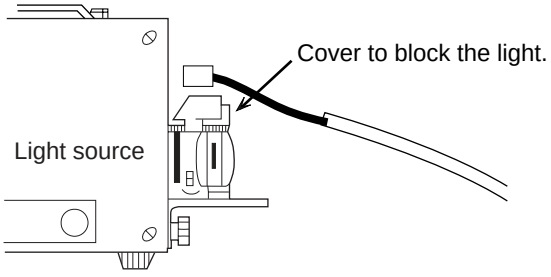


Fig. 4-13 Image data output.

1.16 AF Focus Data Check

PURPOSE

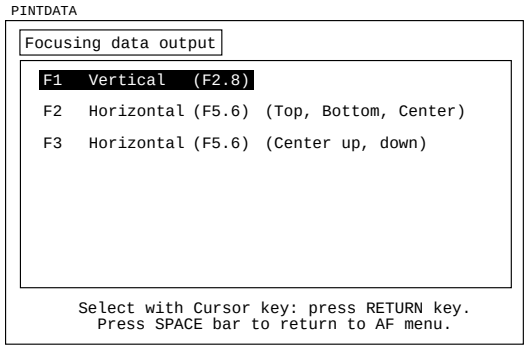
To check the AF precision.

TOOLS

EF 50mm f/1.8 tool lens
Light
Tripod
Standard Chart

CHECK PROCEDURE

1) Set up for the focus adjustment.
2) Place the Standard Chart 2.5 m away from the camera. Set the service lens to the index manually.
3) On the AF menu, select [F4] Focus Output Menu.
4) When the Focus Output Menu is selected, the sensor selection screen on the right will appear. Select the sensor to be checked.


PINTDATA
Focusing data output
F1 Vertical (F2.8)
F2 Horizontal (F5.6) (Top, Bottom, Center)
F3 Horizontal (F5.6) (Center up, down)
Select with Cursor key: press RETURN key.
Press SPACE bar to return to AF menu.

Check that each sensor's output meets the "focus output" standard indicated in the table.

5) If the output does not meet the standard, try the AF sensor self-check.

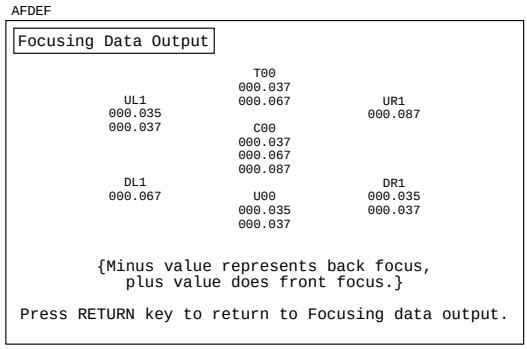


Table 4-1 Defocus Standards Table

	Standard Chart			45° Bar Chart		
	Center	Periphery 1	Periphery 2	Center	Periphery 1	Periphery 2
50 mm f/1.8 tool lens	±0.070	±0.077	±0.091	±0.220	±0.286	±0.286

1.17 AF SENSOR SELF CHECK

Since it is too much to inspect all of the AF sensors with the image data output, this easy method of inspection has been devised.

CAUTION

- When the AF sensor's output is inspected while light strikes the sensor, any uneven brightness of the EF-8000 or EF-5000 will affect the AF sensor's output. Therefore, before proceeding, clean the light source.

PURPOSE

To check whether the AF sensor is working properly. The following items are to be checked:

- AF data
- AF sensor output in the dark
- AF sensor output with light

TOOLS

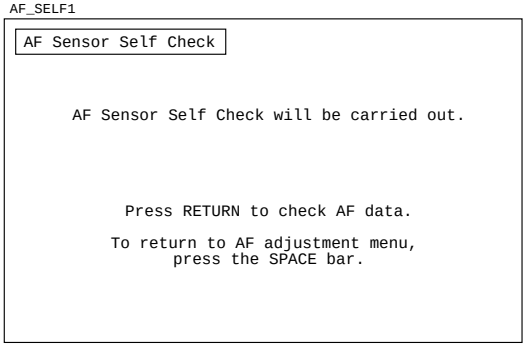
EF-8000 or EF-5000

Dark bag

INSPECTION PROCEDURE

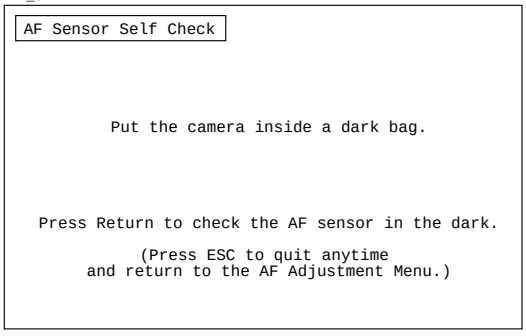
1) On the AF Adjustment Menu, select [F5] AF Sensor Self Check.
2) Continue to press Return until the top screen appears. Press Return to execute the AF data check.

AF_SELF1


AF Sensor Self Check
AF Sensor Self Check will be carried out.
Press RETURN to check AF data.
To return to AF adjustment menu,
press the SPACE bar.

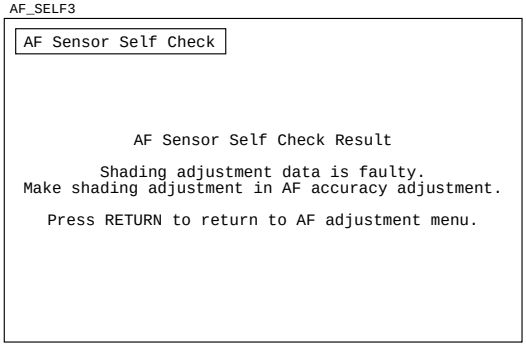
3) Next, when the screen on the right appears, put the camera inside a dark bag and press Return.
4) Also check the AF sensor's output while light strikes the sensor. Set the camera against the EF-8000 or EF-5000 and set the brightness to EV12. The lens is to be attached to the camera and set to infinity. Then press Return.

AF_SELF2


AF Sensor Self Check
Put the camera inside a dark bag.
Press Return to check the AF sensor in the dark.
(Press ESC to quit anytime
and return to the AF Adjustment Menu.)

5) If any check item fails the inspection, the screen on the right will appear. Some items can be corrected automatically. However, those displayed on the screen must undergo readjustment.

AF_SELF3


AF Sensor Self Check
AF Sensor Self Check Result
Shading adjustment data is faulty.
Make shading adjustment in AF accuracy adjustment.
Press RETURN to return to AF adjustment menu.

1.18 AF SENSOR CLEANING

CAUTION

- Blow just enough air so that it reaches the AF sensors. Wiping the sensors with alcohol, etc., will cause uneven cleanliness and worsen the condition.
- At the same time, clean the secondary mirror and the rear of the main mirror.

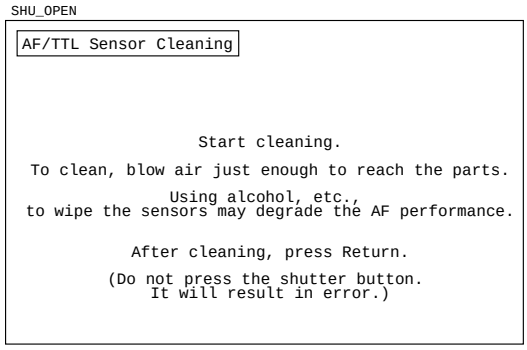
The AF sensors cannot be cleaned because the AF light shield is in the way. To clean the AF sensors, blow air through the aperture.

PURPOSE

To clean the AF sensors.

INSPECTION PROCEDURE

1) On the AF Adjustment Menu, select [F6] AF Sensor Cleaning.
2) The reflex mirror will go up and down and the shutter will be set to bulb.
3) Clean the AF sensors and mirrors.
4) After cleaning is completed, press Return.


SHU_OPEN
AF/TTL Sensor Cleaning
Start cleaning.
To clean, blow air just enough to reach the parts.
Using alcohol, etc.,
to wipe the sensors may degrade the AF performance.
After cleaning, press Return.
(Do not press the shutter button.
It will result in error.)

1.19 FRONT PANEL OPERATION COUNT RESET

CAUTION

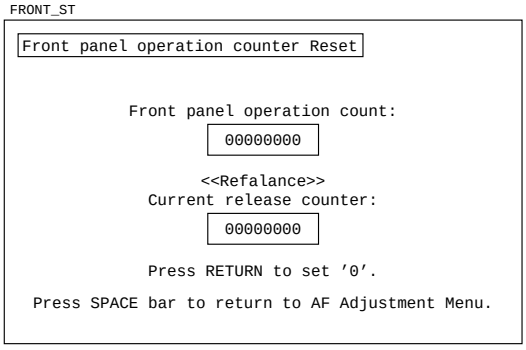
- After replacing the front panel unit, be sure to do this adjustment before the AF focus adjustment.

PURPOSE

Like the EOS-3, the EOS-1V is designed to automatically correct the AF focus according to the front panel operation count. Therefore, when the front panel unit is replaced, the front panel operation count must be reset to 0.

PROCEDURE

1) On the AF Adjustment Menu, select [F7] Front Panel Operation Count Reset.
2) After communication with the camera, the screen on the right will appear, and the front panel operation count and shutter operation count will be displayed. The shutter operation count is for reference purposes.
3) Press the Return key to reset the front panel operation count to 0. To return to the AF Adjustment Menu, press the space bar.



1.20 FLASH METERING ADJUSTMENT

This consists of the basic adjustments and level adjustments of TTL and E-TTL. The basic adjustment mainly adjusts the gain when the ISO changes. The level adjustment adjusts the exposure level when flash is used.

CAUTION

- When adjusting TTL, use a TTL Speedlite (540EZ, 300EZ, etc.). When adjusting E-TTL, use an E-TTL Speedlite (550EX, 380EX, etc.). If the wrong type of Speedlite is used, the adjustment cannot be made.
- After performing the basic adjustments for TTL and E-TTL (A-TTL adjustment is usually not necessary), do the level adjustment.
- In a dark place (EV 3 or lower or in a darkroom), use a standard 18-percent gray card (or a white wall with low reflectance) and obtain readings from several units and average the results. Use the average as the center value. Take each reading under the same conditions.
- After replacing the main flexible board, adjust the TTL and E-TTL. After the front panel unit (with built-in TTL sensor) is replaced, only TTL needs to be adjusted.
- Before adjusting TTL and E-TTL, the shutter adjustment must be completed.
- Before adjusting E-TTL, the Basic AE Adjustments must be completed.
- The EF-8000 or EF-5000's direct light metering sensor can be used as a flash meter to obtain accurate readings.

TOOLS

EF 50mm f/1.8 tool lens
Speedlite (TTL models like 300EZ, 540EZ)
Tripod
Standard 18-percent gray card (or a low-reflectance wall)
Flash meter or the EF-8000 or EF-5000's direct light metering sensor

SET-UP FOR MEASUREMENT

As shown, place the camera 2 m from the standard 18-percent gray card (or low-reflectance white wall). When measuring for E-TTL, the measured value will not be different for manual focus and autofocus. When measuring TTL, one of the three metering sensors is selected in correspondence to the focusing point's position. Therefore, set the lens to AI Servo (it does not need to be in focus). To measure the left metering sensor, select the left focusing point. To measure the right metering sensor, select the right focusing point. To measure the center or peripheral metering sensor, select the center focusing point.

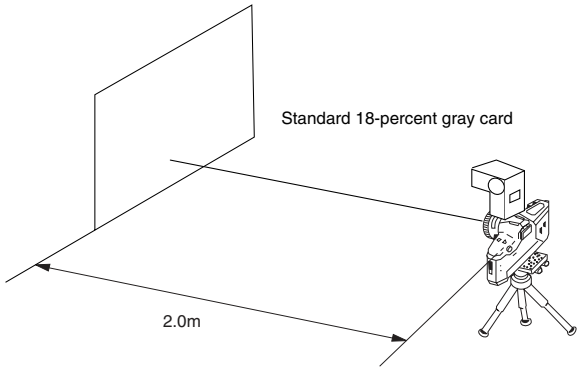


Fig. 4-14 Flash metering set-up.

• Basic TTL Adjustments

CAUTION

- Be sure to use an TTL Speedlite (540EZ, 300EZ, etc.). (A 550EX set to C.Fn-3-1 can also be used.)
- If the level adjustment is not done before the check procedure, the measuring instrument's measuring limit will be exceeded and an error may result. It will be faster to perform the check procedure below along with the level adjustment.

PURPOSE

To adjust the flash metering sensor's gain. Normally, this adjustment is not necessary even after the sensor (front panel unit) or main flexible board is replaced. (Initialization will write the factory's center value.) Do this adjustment if the user says that there is no problem at ISO 100 but overexposure or underexposure occurs at ISO 800 or 1600. Perform the level adjustment if the problem occurs at ISO 100 or at ISO 800 and 1600.

STANDARDS

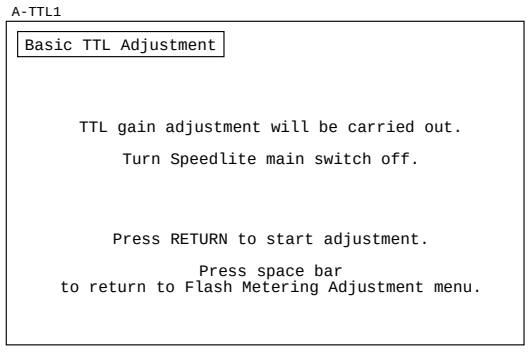
Average of +/-1EV

PREPARATIONS

1) There are none.

ADJUSTMENT PROCEDURE

1) The screen on the right will appear. When ready, press Return.
2) The adjustment is executed automatically.
3) After the gain adjustment, the level adjustment is executed.


A-TTL1
Basic TTL Adjustment
TTL gain adjustment will be carried out.
Turn Speedlite main switch off.
Press RETURN to start adjustment.
Press space bar
to return to Flash Metering Adjustment menu.

CHECKING PROCEDURE (SEE PAGE 4-34)

1) Mount the camera on a tripod and attach an EF 50mm f/1.8 lens and Speedlite.
2) Set the camera to manual mode and set Tv to 1/250 sec. and Av to f/5.6.
3) Set the camera to ISO 100 and the measuring instrument (flash meter or EF-8000 or EF-5000) to ISO 100. Release the shutter and take a reading. Then set ISO 1600 and release the shutter again and take a reading.
4) If the readings taken at ISO 100 and ISO 1600 meet the standards, the gain is normal (already adjusted).
5) If the readings do not meet the standards even after the adjustment, replace the flash metering sensor (front panel unit).

• TTL Level Adjustment

CAUTION

- When TTL Level Adjustment is selected, the camera will be automatically set to the manual mode, Tv = 1/250 sec., Av = f/5.6, and AI Servo. The focusing point will be selected in correspondence to the sensor (right, left, center, peripheral) to be adjusted.
- During the measurement, do not change the focusing point. Doing so will result in an inaccurate measurement.

PURPOSE

To adjust the flash meter sensor's level. Before performing this adjustment, the TTL Gain Adjustment (usually not necessary) must be completed first.

STANDARDS

Average +/-1EV

PREPARATIONS

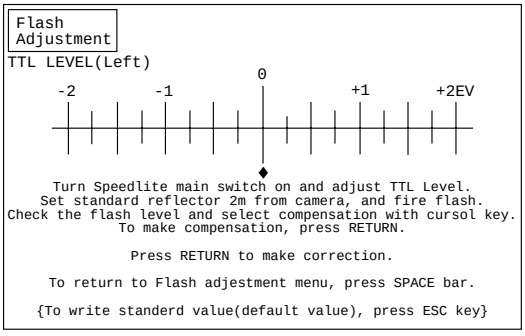
1) Mount the camera on a tripod and attach an EF 50mm f/1.8 lens and Speedlite.
2) Set the camera to the manual mode and set Tv to 1/250 sec. and Av to f/5.6.
3) Set the measuring instrument and camera to ISO 100.

ADJUSTMENT PROCEDURE

1) On the Flash Metering Adjustment Menu, select [F2] TTL Level Adjustment. First, adjust the left sensor's flash metering level. Measure the image plane light level and move the cursor to select the correction amount. Then press Return.

- When you press ESC, the standard value (default) will be written. Do this if the adjustment does not go well.

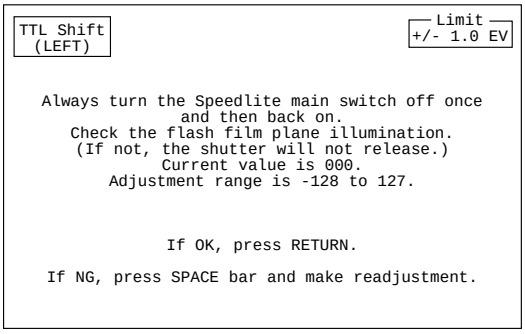
ATTLSFT1


Flash Adjustment
TTL LEVEL(Left)
0
-2
-1
+1
+2EV
Turn Speedlite main switch on and adjust TTL Level.
Set standard reflector 2m from camera, and fire flash.
Check the flash level and select compensation with cursol key.
To make compensation, press RETURN.
Press RETURN to make correction.
To return to Flash adjestment menu, press SPACE bar.
{To write standerd value(default value), press ESC key}

2) Check the right sensor's flash metering level adjustment. Measure the film plane illumination. If it is OK, press Return.

- The "Adjustment Range" is the current reference for the adjustment. If the level is well outside of this adjustment range, the set-up or TTL sensor is probably faulty.

ATTLSFT2


TTL Shift (LEFT)
Limit
+/- 1.0 EV
Always turn the Speedlite main switch off once and then back on.
Check the flash film plane illumination.
(If not, the shutter will not release.)
Current value is 000.
Adjustment range is -128 to 127.
If OK, press RETURN.
If NG, press SPACE bar and make readjustment.

3) In the same way as with the left sensor, adjust the flash metering level for the right, center, and peripheral sensors. When the sensor is selected, the adjustment software will perform the adjustment automatically.

• Basic E-TTL Adjustment

CAUTION Be sure to use an E-TTL Speedlite (550EX, 380EX, etc.) for the check procedure. For the basic adjustment, flash is not necessary. It is necessary for the check procedure.

PURPOSE

To adjust the flash metering sensor's (E-TTL uses the AE sensor) gain and level. Do this adjustment after replacing the main flexible board.

STANDARDS

Average +/-1EV

PREPARATIONS

1) Start up the adjustment software and connect the camera and HS-I/F. On the Flash Metering Adjustment Menu, select [F3] Basic E-TTL Adjustment.
2) Attach the EF 50mm f/1.8 lens to the camera and place it against the EF-8000 or EF-5000's light source. Cover the eyepiece so that ambient light does not enter.

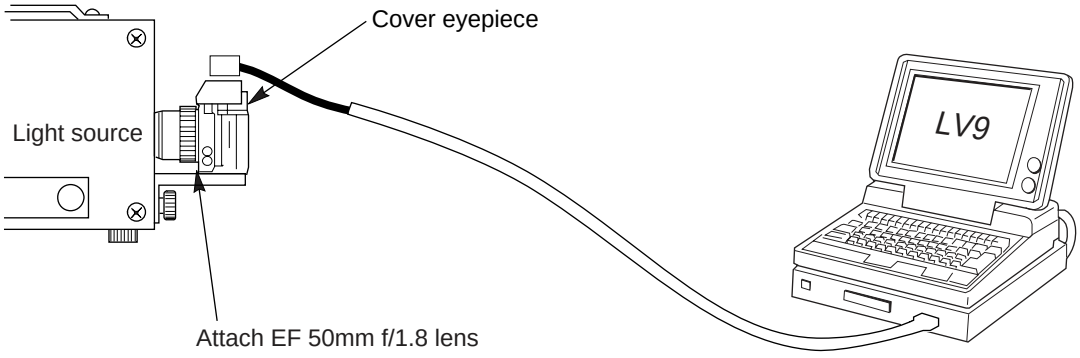
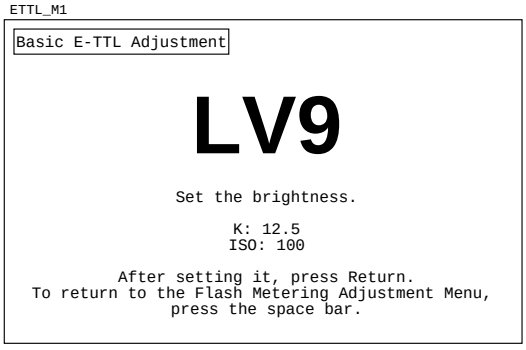


Fig. 4-15 Basic E-TTL adjustment.

ADJUSTMENT PROCEDURE

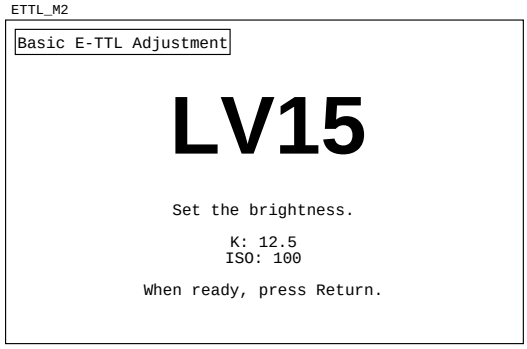
1) On the Flash Metering Adjustment Menu, select [F3] Basic E-TTL Adjustment.
2) Set the light source to LV9 and press Return.

K: 12.5
ISO: 100

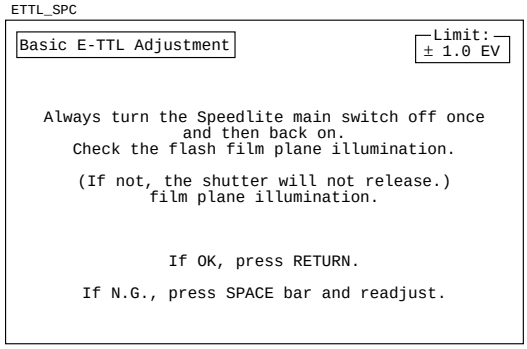


3) After the transmission, the screen on the right will appear. Set the brightness to LV15 and press Return.

   K: 12.5
   ISO: 100



4) After the transmission, the screen on the right will be displayed. Use an E-TTL Speedlite to check the brightness on the image plane.


ETTL_SPC
Basic E-TTL Adjustment
Limit:
± 1.0 EV
Always turn the Speedlite main switch off once and then back on.
Check the flash film plane illumination.
(If not, the shutter will not release.)
film plane illumination.
If OK, press RETURN.
If N.G., press SPACE bar and readjust.

CHECK PROCEDURE (SEE PAGE 4-34)

1) Mount the camera on a tripod and attach an EF 50mm f/1.8 lens and Speedlite.
2) Set the camera to the Program mode.
3) Set the camera to ISO 100 and set the measuring instrument (flash meter or EF-8000 or EF-5000) to ISO 100. Then release the shutter and take a reading. If you are using a flash meter, press the camera's FE-L button, then release the shutter. This way, the preflash will not be metered.
4) If the readings are within the standard, set the ISO to 1600 and release the shutter and take a reading.
5) If the readings taken at ISO 100 and ISO 1600 meet the standards, it is normal (already adjusted).
6) If the readings do not meet the standard even after the adjustment, the AE tester's brightness might be faulty.

• E-TTL Level Adjustment

CAUTION Be sure to use an E-TTL Speedlite (550EZ, 380EZ, etc.).

PURPOSE

This corrects the E-TTL flash metering sensor's level. As with the AE Shift Adjustment, the flash exposure level can be set to overexpose or underexpose according to the user's preference.

STANDARDS

Average +/-1EV

PREPARATIONS

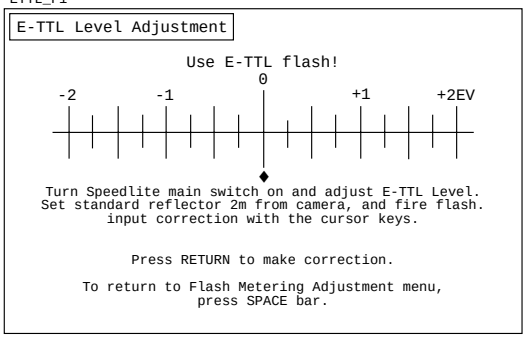
1) Mount the camera on a tripod and attach an EF 50mm f/1.8 lens and Speedlite.
2) Set the camera to the Program mode.
3) Set the measuring instrument and camera to ISO 100.

ADJUSTMENT PROCEDURE

1) On the Flash Metering Adjustment Menu, select [F4] E-TTL Level Adjustment.
2) Select the correction amount with the cursor.

- The correction amount can be set in approx. 0.25-stop increments. To set 1-stop overexposure, set it to +1.

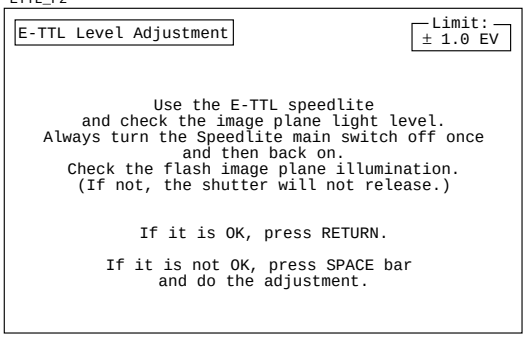
ETTL_F1



3) After the transmission is completed, release the shutter. Make sure the flash has fully recycled.

4) If the level meets the standard, press Return to complete the adjustment.

ETTL_F2


E-TTL Level Adjustment
Limit:
± 1.0 EV
Use the E-TTL speedlite
and check the image plane light level.
Always turn the Speedlite main switch off once
and then back on.
Check the flash image plane illumination.
(If not, the shutter will not release.)
If it is OK, press RETURN.
If it is not OK, press SPACE bar
and do the adjustment.

• E-TTL Precision Check

CAUTION This is a simplified check procedure. For an underexposure or overexposure adjustment to be made according to the user's preference, follow the procedure which uses a flash in a darkroom.

PURPOSE

To check the precision of the E-TTL flash metering sensor. As with SPC Positioning, this procedure enables a simple check of the E-TTL flash metering.

STANDARDS

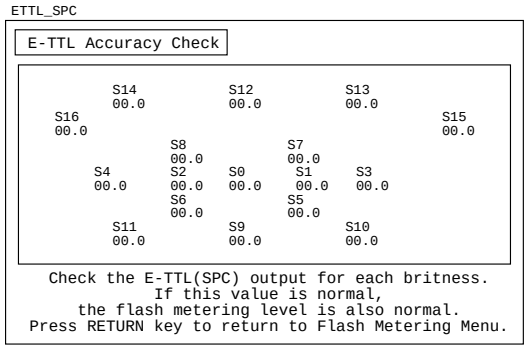
Average +/-0.25 EV

PREPARATIONS

1) Use EF-5000 or EF-8000 and set the camera against the light source.

ADJUSTMENT PROCEDURE

1) On the Flash Metering Adjustment Menu, select [F5] E-TTL Precision Check.
2) The brightness received by the E-TTL flash metering sensor (AE sensor) is displayed. Change the brightness of the EF-5000 or EF-8000 and see if the sensor's brightness meets the standard.



1.21 INHIBIT VOLTAGE ADJUSTMENT

CAUTION

- This adjustment is required after the main flexible board is replaced.
- Since the system connector has battery check resistors (RBAT, RBAT2), adjustment and check are also required after the system connector is replaced.

Three types of inhibit voltages must be adjusted: 2CR5 lithium batteries, PDB (size-AA batteries), and PDB (Ni-MH). However, by selecting Overall Correction, all the inhibit voltage levels will be based on the 2CR5 battery's level. Normally, after replacing the main flexible board, do the Overall Correction. If the user complains that only one type of battery (like the PDB Ni-MH) becomes exhausted quickly (assuming that there is no leaking current or other problem), the adjustment can be made only for that battery type.

Tip: If the user complains that the batteries become exhausted fast, first check for any problems with leaking current and other operating current. Compensate by setting the inhibit voltage level slightly lower with the Overall Adjustment or Individual Adjustment. Note that if it is set it too low, it will not be applied because the adjustment software has certain limits. (If it is set too low, the lens EMD operation will become unstable.)

PURPOSE

This adjustment sets the minimum power voltage required to ensure operating precision of the camera's operating parts. Any lower voltage prohibits the respective camera operation. It also adjusts the battery check icon indications displayed on the external LCD panel.

STANDARDS

	2CR5	PB-E2	
		Size-AA Batteries	(Ni-MH)
Fully-charged indicator	5.40 V	9.65 V	12.85 V
Half exhausted indicator	5.15 V	9.35 V	12.70 V
Blinking	4.80 V	9.05 V	12.35 V
Shutter release inhibited	4.50 V	8.35 V	11.85 V
Metering inhibited	3.60 V	7.10 V	11.00 V

* To check the battery check icon indications, turn the main switch from OFF to ON.

TOOLS

Regulated DC power source

Tool battery probe kit (CY9-1101-000): For Overall Correction, 2CR5 lithium battery adjustment

Tool battery kit (CY9-1104-000): For PDB (size-AA), PDB (Ni-MH) adjustment

Tester

PDB-E2

• Overall Correction

Based on the 2CR5 lithium battery's voltage as the standard, do the adjustment for the 2CR5 lithium batteries, PDB (size-AA batteries), and PDB (Ni-MH).

PREPARATIONS

1) Connect the tool battery probe kit to the camera. On the Inhibit Voltage Menu, select [F1] Overall Correction.

ADJUSTMENT PROCEDURE

1) Set the power voltage to the voltage displayed on the screen. Then press Return.

- Pressing ESC will write the standard value (default). Do this if something goes wrong with the adjustment.

INHN

Inhibit Voltage Adjustment
(Overall Correction)

4.50V

Use the service battery
and set the constant voltage power source to 4.50 V.

When ready, press Return.

To return to the Inhibit Voltage Menu,
press the space bar.

2) After the transmission, the screen on the right will appear. Press the shutter button and check the inhibit voltage.

INHCHK

Inhibit Voltage Adjustment

	2CR5	PB-E2(AA)	PB-E2(Ni-MH)
FULL	5.40v	9.65v	12.85v
HALF	5.15v	9.35v	12.70v
BLINK	4.80v	9.05v	12.35v
Release Inh.	4.50v	8.35v	11.85v
Metaring Inh.	3.60v	7.10v	11.00v

Do a battery check and check the display.

If it is OK, press RETURN key.

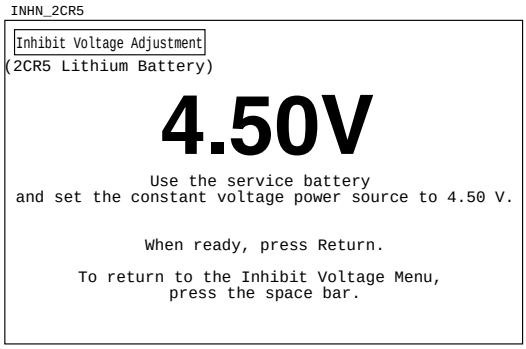
If this is not OK,
press the SPACE bar and do the adjustment again.

• 2CR5 Lithium Battery Correction

This adjusts only the 2CR5 lithium battery's inhibit voltage level.

PREPARATIONS

1) Connect the tool battery probe kit to the camera. On the Inhibit Voltage Menu, select [F2] 2CR5 Lithium Battery Correction.


INHN_2CR5
Inhibit Voltage Adjustment
(2CR5 Lithium Battery)
4.50V
Use the service battery
and set the constant voltage power source to 4.50 V.
When ready, press Return.
To return to the Inhibit Voltage Menu,
press the space bar.

ADJUSTMENT PROCEDURE

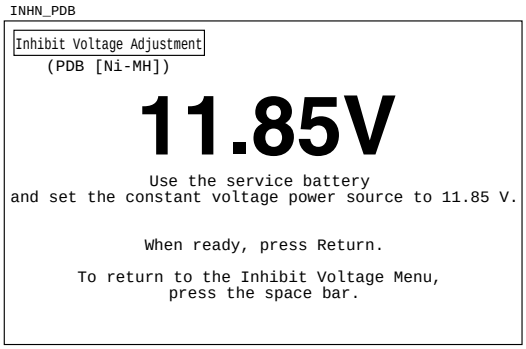
This procedure is the same as for the Overall Correction.

• PB-E2 (size-AA) and PB-E2 (Ni-MH) Correction

This adjusts the inhibit voltage level of size-AA batteries or Ni-MH batteries when a PDB is used with the camera.

PREPARATIONS

1) Connect the PDB tool battery kit and PDB-E2 to the camera. On the Inhibit Voltage Menu, select [F3] or [F4] PDB (size-AA), PDB (Ni-MH).


INHN_PDB
Inhibit Voltage Adjustment
(PDB [Ni-MH])
11.85V
Use the service battery
and set the constant voltage power source to 11.85 V.
When ready, press Return.
To return to the Inhibit Voltage Menu,
press the space bar.

ADJUSTMENT PROCEDURE

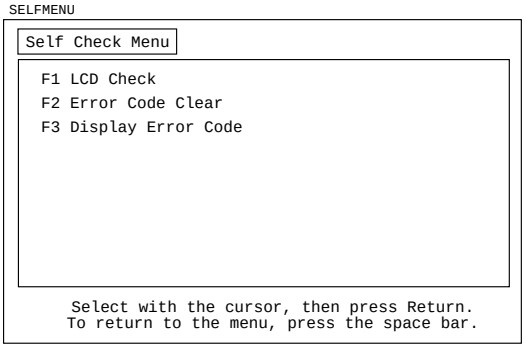
This procedure is the same as for the Overall Correction.

1.22 SELF CHECK

With the self check, the following operations are possible.

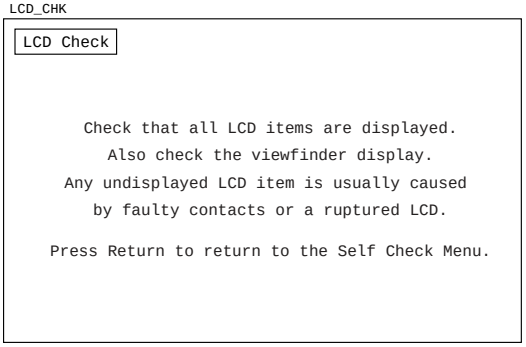
1. LCD check: Displays all the items on the external LCD panel and viewfinder LCD to check for any missing items.
2. Error code clearing: Clears the camera's internal error No.
3. Error code display: Sets the mode which displays the error No. at the same time the battery check icon blinks.

On the Main Menu, select Self Check. The Self Check Menu will then appear.


SELFMENU
Self Check Menu
F1 LCD Check
F2 Error Code Clear
F3 Display Error Code
Select with the cursor, then press Return.
To return to the menu, press the space bar.

• LCD Check

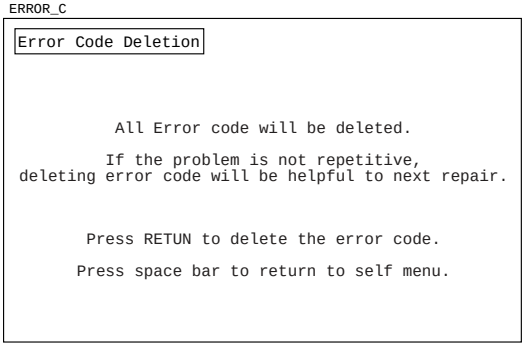
When you select LCD Check, the screen on the right will appear. All the camera's LCD items will be displayed. If there are any LCD items not displayed, the LCD is probably faulty.


LCD_CHK
LCD Check
Check that all LCD items are displayed.
Also check the viewfinder display.
Any undisplayed LCD item is usually caused
by faulty contacts or a ruptured LCD.
Press Return to return to the Self Check Menu.

• Error Code Clearing

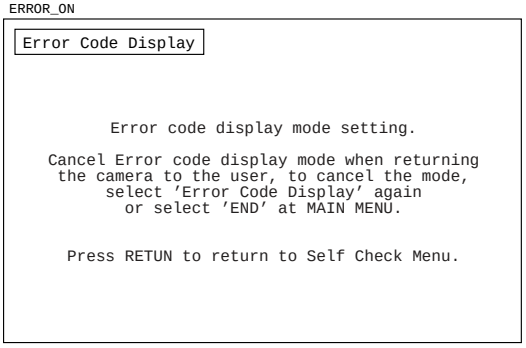
This deletes the error code. For problems which do not recur, deleting the respective error code will be helpful the next time the camera is repaired.

On the Self Check menu, select [F2] Error Code Clear. The screen on the right will appear. Press Return to delete the error code.


ERROR_C
Error Code Deletion
All Error code will be deleted.
If the problem is not repetitive,
deleting error code will be helpful to next repair.
Press RETUN to delete the error code.
Press space bar to return to self menu.

• Error No. Display

In the normal camera mode, when an error occurs, only the battery check icon blinks. When Error No. Display is selected, the error No. will also be displayed when an error occurs. For the error No., see Part 2 Technical Information.


ERROR_ON
Error Code Display
Error code display mode setting.
Cancel Error code display mode when returning
the camera to the user, to cancel the mode,
select 'Error Code Display' again
or select 'END' at MAIN MENU.
Press RETUN to return to Self Check Menu.

1.23 DISPLAY ADJUSTMENT MENU

This menu enables the following adjustments:

1. SI position adjustment: Adjusts the SI (Superimpose) position.
2. SI brightness adjustment: Sets the SI brightness brighter or darker. (Normally, this adjustment is not necessary.)

• SI Position Adjustment

CAUTION

Be sure to do this adjustment after replacing or removing the SLC unit. The AF sensor's center and the viewfinder center (spotmetering circle at center) are slightly different. Therefore, do the adjustment while attaining a balance between the AF sensor's center and the viewfinder center.

PURPOSE

To align the AF sensor position and the SI position.

STANDARDS

Within 0.15 mm at the top, bottom, right, and left.

CHECK PROCEDURE

With the Ec-D (Laser-matte with grid) or Ec-H (Laser-matte with scale) focusing screen installed, the SI position must be within +/- 8 line widths over the center focusing point. (One line width is about 0.02 mm.) Since the focusing screen has an acceptable error of about 0.07 mm, it is acceptable if the SI position is nearly center with the standard focusing screen.

TOOLS

SI Adjustment Chart (to be custom-made, instructions included in the appendix.

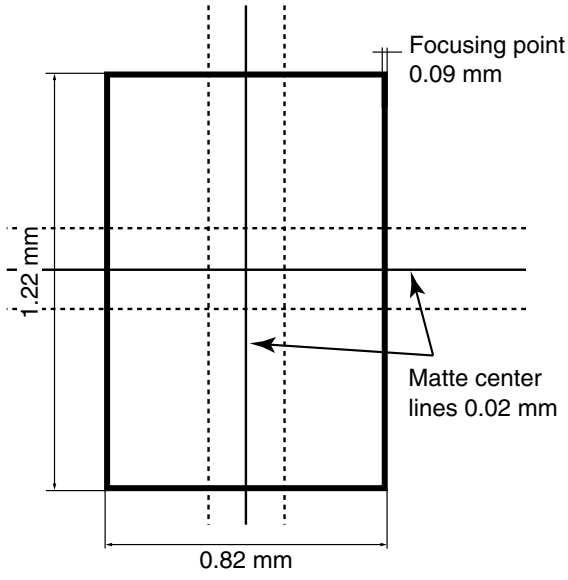


Fig. 4-16 Standards